487 EZ

wpcp.

# STOPPING WATER POLLUTION AT ITS SOURCE



# THIRTY SEVEN MUNICIPAL WATER POLLUTION CONTROL PLANTS

PILOT MONITORING STUDY

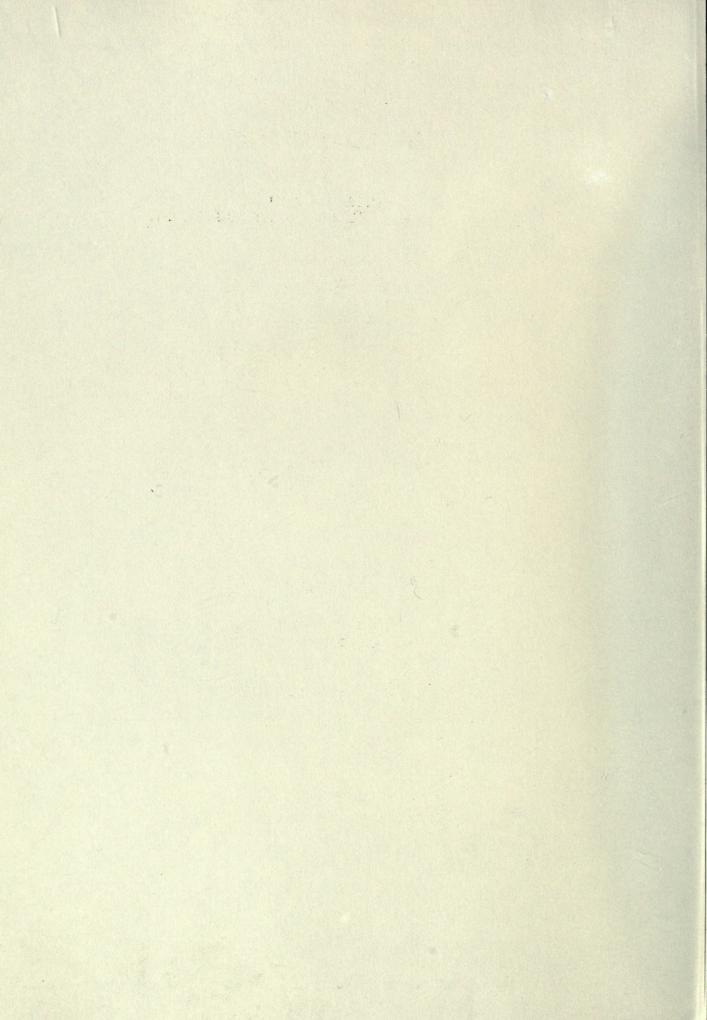
VOLUME II

APPENDIX "A"

**DECEMBER 1988** 



Jim Bradley Minister



# THIRTY SEVEN MUNCIPAL WATER POLLUTION CONTROL PLANTS

Pilot Monitoring Study

Volume 2
Appendix 'A'
Individual Plant Reports

Report prepared for:
Ontario Ministry of the Environment
Water Resources Branch

Report prepared by: Canviro Consultants

DECEMBER 1988
Reprinted: November 1989

# MUNCIPAL WATER POLILITION CONTROL PLANTS

Pilot Monitoring Study

Volume 2 Appendix 'A' Individual Plant Reports

Report prepared for: Ontario Ministry of the Environment Water Resources Branch

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PRCEMBER 1988 Reprinted: November 1989

Kingston City Wite Finds two water wa APPENDIX A

### INDIVIDUAL PLANT DATA

(KIR18/28A)

## Appendix A

### INDIVIDUAL PLANT DATA

A-1	Belle River (Maidstone) WPCP
A-2	Brantford WPCP
A-3	Burlington (Skyway) WPCP
A-4	Cornwall WPCP
A-5	Grimsby (Baker Road) WPCP
A-6	Guelph WPCP
A-7	Hamilton (Woodward) WPCP
A-8	Kingston City WPCP
A-9	Kingston Twp. WPCP
A-10	Kitchener WPCP
A-11	
A-12	London (Greenway) WPCP
A-13	
A-14	
A-15	
A-16	
A-17	
A-18	
	Oakville (Southeast) WPCP
	Ottawa (Green Creek) WPCP
	Paris WPCP
A-22	Peterborough WPCP
A-23	Pickering (Duffin Creek) WPCP
A-24	Sarnia WPCP
A-25	Sault Ste. Marie (East) WPCP
	Sault Ste. Marie (West) WPCP
	Sudbury WPCP
A-28	Thunder Bay WPCP
A-29	Toronto (Highland Creek) WPCP
	Toronto (Humber) WPCP
	Toronto (Main) WPCP
	Toronto (North) WPCP
	Waterloo WPCP
A-34	Wallaceburg WPCP Windsor (Little River) WPCP
A-36	Windsor (Westerly) WPCP Whithy (Pringle Creek #1) WPCI
A-3/	Whithy Ipringle Creek #11 WPC

### Plant Schematic with Design Characteristics

Design data for each WPCP was developed from existing documentation supplemented by onsite measurements and discussions with operating staff.

The preponderance of design data collection was carried out at the time of the pre-monitoring inspection, although, in most cases subsequent investigation was not necessary.

### WPWP Performance Data

WPCP performance data (BOD, TSS, TP) were abstracted from a prior MOE report entitled "Phosphorus Removal Upgrading at Wastewater Treatment Facilities in the Great Lakes Basin - Phase I Report", November, 1986. The source of the influent and effluent data used for these Tables was the Ontario Ministry of the Environment database for discharges from municipal wastewater treatment facilities in Ontario.

Presented in the Tables is a statistical comparison of effluent BOD, TSS and TP concentrations to the 5 year average value. These comparisons were only valid if monthly average data was available for all 5 years. Otherwise, it was indicated in a Table that insufficient data was available for the comparisons.

### Operational Evaluations

Data sheets are presented in this Appendix which present the operational data for the two week presampling period and the sampling period. This information was collected from WPCP daily operating summaries and supplemented as necessary by additional sampling.

### Raw Wastewater Components

The relative contributions of domestic, commercial industrial and inflow-infiltration flow sources to the raw wastewater observed at each study WPCP was investigated in a separate MOE project. At the time of the study, very few industries monitored their flows discharged into municipal sewage treatment plant. As a result, industrial flows received at the treatment plant were estimated indirectly from their annual water use. It was assumed that on the average, 85% of the water purchased were returned to the sewer, over 250 days in a year.

Due to various difficulties, water use could not be obtained for all industries. Consequently, percent industrial flows received are generally underestimated. A summary table of sources of raw sewage was prepared for each WPCP and is presented in Appendix A. These tables provide an estimate

reported water use data, and where the information was available, the top 5 industiral sectors based on available water use data.moil begolareb and 420% dose tol atab apised

The results of this investigation were very approximate but have been included in Appendix A because no other data was available. at the time of the pre-monitoring inspection, although most cases subsequent investigation was not necessary.

WPCP performance data (300, 185, 17) were anstracted from a prior MOE report entitled "Phosphorus Removal Utgrading at wastewater Treatment Facilities in the Great Lakes Basin - Phase I Report", November, 1986. The Source of the influent and effluent data used for these Tatles was the Ontario Ministry of the Environment database for discharges from municipal wastewater treatment scribites in ontario-"

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days in a vear.

2-22 Peterborough MPCP

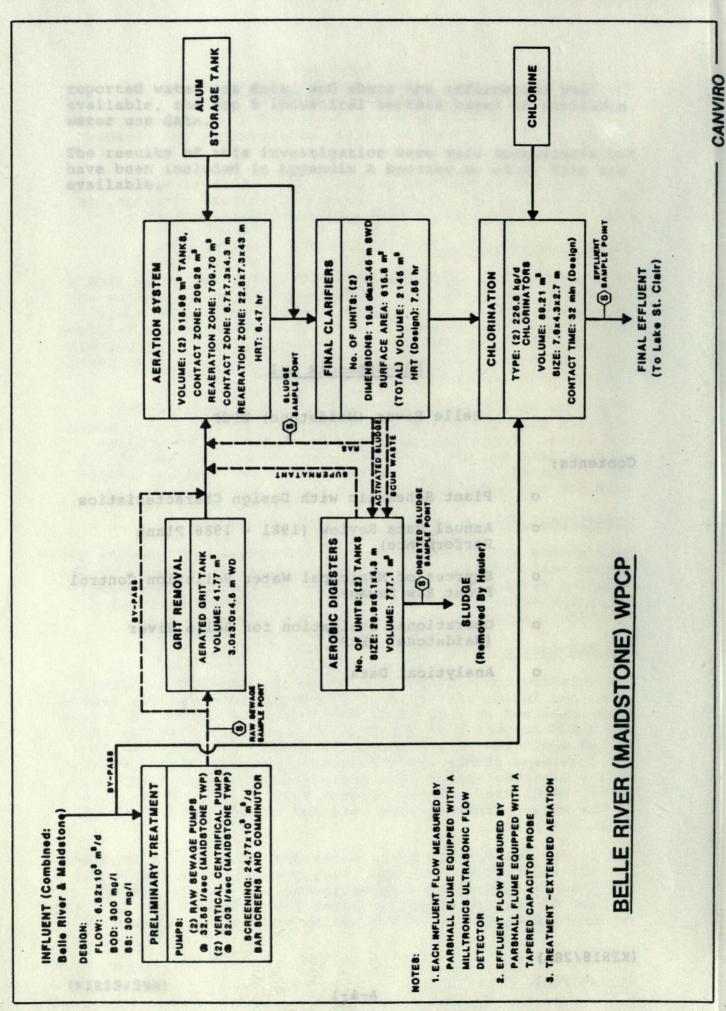
Presented in the Tables la statistical comparison of

Operational Evaluations of Street Participal First

# Sub-Appendix A-1 Belle River (Maidstone) WPCP

### Contents:

- o Plant Schematic with Design Characteristics
- O Annual Data Review (1981 1986 Plant Performance)
- O Sources of Municipal Water Pollution Control Plant Raw Sewage
- O Operational Evaluation for Belle River (Maidstone) WPCP
- o Analytical Data



A-1-2

BELLE RIVER - MAIDSTONE WPCP Extended Aeration - Phosphorus Removal - Continuous Capacity - 6.819 18(3) m3/day

PARAMETER	1981	1982	1983	1984	1985	MEAN ANNUAL AVERAGE
Avg. Daily Flow (1888 m3/day)	3.88	4.65	5.35	5.80	6.35	5.03
BOD5 - Influent (mg/L) BOD5 - Effluent (mg/L) Annual BOD5 Significantly	67.71 8.99	77.78	67.83 8.82	88.88	78.75 4.92	74.48
Different from Mean Annual Average BODS?	γ	N	N 	N	; ; ;	 
TSS - Influent (mg/L) TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean	67.18 10.85	80.93 12.15	89.95	185.67	91.75	87.89 11.48
Annual Average TSS?	N	N	N 	N .	N	
Total P - Influent (ag/L) Total P - Effluent (ag/L) Annual TP Significantly	2.87 8.48	2.92	2.38 8.40	2.74	3.17	2.66
Different from Mean Annual Average TP? TP in Compliance?	W Y	M Y	N Y	: : N : Y	Y	; ; ; ;

I.D. - Insufficient Data

SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE BELLE RIVER-MAIDSTONE WPCP

110002078

EXTENDED AERATION

PHOSPHORUS REMOVAL CONTINUOUS

DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED 6.819 6.868 7581

% OF TOTAL FLOW ATTRIBUTED TO:

INDUSTRIAL SOURCES (%)

NOT ESTIMATED

COMMERCIAL SOURCES (%) (Population x 0.0757)

8

RESIDENTIAL SOURCES (%)

19

(Population x 0.175)

UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from

72

(100-% Contributed from industrial, commercial and residential sources)

PROFILE OF INDUSTRIES IN CATCHMENT

TOTAL NO OF INDUSTRIES
INDUSTRIES WITH WATER
NO OF SIC CATEGORIES

20

0

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION

SIC

# OF

COMPANIES

PLANE TO SERVICE STREET, LANSING

### OPERATIONAL EVALUATION FOR: BELLE RIVER (MAIDSTONE) WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: Feb. 6, 1988
SAMPLING SEASON: Winter (Cold Weather)
DESIGN AVG FLOW: 6,820 m3/d

				PRE-SAM	PLING PERI	OD		
0 2 2 2	PARAMETER :	DAY 1 :	DAY 2 !	DAY 3 1	DAY 4	DAY 5	DAY 6	DAY 7
! ! ==	FRANCICA I							
	1	1	1	1	2	5 5	1	
::	RAW SEWAGE FLOW	5,970 :	6,140 :	5,560 ;	5,290 1	5,480 ;	5,150 :	5,590
9 0	1		1	1	2 2	1	1	
9 0	% of Design Flow	87.54%	90.03%	81.52%	77.571	80.351	75.511:	81.96%
11		1	1	1	1	1	1	
11-								
::	Influent BOD (mg/L)	1	72.0 :	70.0 :	i	1	1	
8 8	Primary BOD (mg/L)	1	72.0 1	70.0 :	8	8	1	
	Secondary BOD (mg/L)	1	3.4 :	5.0 1	1	1	3	
3 1	I PRIMARY REMOVAL	1	0.0 ;	0.0	1	1	1	
11	I SECONDARY REMOVAL	1	95.3 1	92.9	3	1	1	
11-			50.0	40.0		70.4		
	Influent SS (mg/L)	93.0 :	59.0 1		i	78.0 :	i	
	Primary SS (mg/L)	93.0 :	59.0 1	69.0 :	i	78.0 1	i	
* *	Secondary SS (mg/L)	18.0	9.0 1	9.2 1	i	12.0	i	
* *	Z PRIMARY REMOVAL	0.0	0.0 :	0.0	i	0.0	i	
11-	I SECONDARY REMOVAL	80.6	84.7	86.7	i	84.6	j	
11	Influent NH4 (mg/L)		1		!			
	Primary NH4 (mg/L)	1						
	Secondary NH4 (mg/L)	!						
	I PRIMARY REMOVAL	1		3				
11	I SECONDARY REMOVAL		1					
!!-	a Secondari religire							
	Influent TKN (mg/L)		25.0 1	1	1 1	1	1	
9 9	Primary TKN (mg/L)	:	8	1	2 2	2 2	8	
2 2	Secondary TKN (mg/L)	2	1.3 :	1	2 2	1	1	
::	I PRIMARY REMOVAL		1		1		8	
11	% SECONDARY REMOVAL	1	94.8 1	1	1	4	1	
11-								
2 8 1 8	Influent Total P (mg/L)	1	3.30 :	1	1	1 1	2	
9 8	Primary Total P (mg/L)		1 1	3 3	1	1	2 2	
17	Secondary Total P (mg/L)	F 1	0.54 :	1	1 1	1	1	
::	I PRIMARY REMOVAL	1	# 2	2 1	1 1	3 2	*	
::	% SECONDARY REMOVAL		83.6 :	1	1	1	1	

### OPERATIONAL EVALUATION FOR:

### BELLE RIVER (MAIDSTONE) WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: Feb. 6, 1988

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 6,820 m3/d

11				PRE-SA	MPLING PER	IOD		1
11	PARAMETER !	DAY 8 ;	DAY 9 1	DAY 10 1				
11=		:	:	:	:	:	:	
11	RAW SEWAGE FLOW	5,410	5,410	5,370	5,580	5,580	5,560	
11	% of Design Flow	79.331	79.332	78.74%	81.821	81.821	81.521	84.021
11-	Influent BOD (mg/L)	-	 	45.0 1				
!!	Primary BOD (mg/L)	8 8	1	45.0 ;	1	:	!	1
!!	Secondary BOD (mg/L)	1	- :	5.0 1	1	1	;	:
11	I PRIMARY REMOVAL	1	1	0.0 ;	1	;	- !	1
11-	% SECONDARY REMOVAL	 !-		88.9 1				
11	Influent SS (mg/L)		i	99.0 :		119.0		
11	Primary SS (mg/L)	1	- 1	99.0 :	- 1	119.0 :	1	1
11	Secondary SS (mg/L) ;	1	:	15.0 1	;	15.0 1		;
11	I PRIMARY REMOVAL :	1	1	0.0 }	1	0.0 ;		!
11-	Z SECONDARY REMOVAL			84.8 :		87.4		
11	Influent NH4 (mg/L)	1				i	i	i
11	Primary NH4 (mg/L) :	1	:	1	1	;	1	1
11	Secondary NH4 (mg/L)	1 1	2	ŧ	1	1	;	1
11	Z PRIMARY REMOVAL	1	1	i			1	1
11-	1 SECONDARY REMOVAL		: !	!		!		
11	Influent TKN (mg/L)	:	i	:		;		
11	Primary TKN (mg/L) :		1	1	1	1	1	1
11	Secondary TKN (mg/L) :	1	:	1	1	1	1	i i
1 1	I PRIMARY REMOVAL :	1	1	1	1	i	i	1
11	% SECONDARY REMOVAL	1		1		i		
11-	Influent Total P (mg/L) :			2.20 :	2.10			
11	Primary Total P (mg/L)		!	!	1110	1	1	
11	Secondary Total P (mg/L) :			1.00 ;	0.80	;	1	;
11	Z PRIMARY REMOVAL	1	1	1	1	1	1	
11	% SECONDARY REMOVAL	1	1	54.5 1	61.9 1	1	2 2	1

### DPERATIONAL EVALUATION FOR:

### BELLE RIVER (MAIDSTONE) WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING:

Feb. 6, 1988

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 6,820 m3/d

				SAMP	LING PERIO	D		!
2		DAY 15 ;						DAY 21
;==			:	:	:	:	:	;
8	RAW SEWAGE FLOW	5,940 :	5,900 ;	5,870 :	6,050 :	5,790 ;	5,800	6,240
2 2 2	% of Design Flow	87.10%	86.517	86.072	88.71%	-		91.502
}	Influent BOD (mg/L)	80.0		80.0				
	Primary BOD (mg/L)	80.0 1		80.0 1		80.0 ;		
1	Secondary BOD (mg/L)	5.0 1		5.0 1		7.0 1		!
1	I PRIMARY REMOVAL	0.0 :		0.0 :		1	1	2
9 3	I SECONDARY REMOVAL	93.8 1	1	93.8 :	1	1	2 1	1
	Influent SS (mg/L)	114.0	107.0 :	96.0	112.0	84.0		
		114.0 :	107.0 :			84.0 :		
2	Secondary SS (mg/L)	8.0 :	16.0 ;	9.0 :		8.0 ;	1	
1	I PRIMARY REMOVAL	0.0 ;	0.0 ;	0.0		0.0 ;		
1	I SECONDARY REMOVAL	93.0 1				90.5 1	1	
1	Influent NH4 (mg/L)							
1	Primary NH4 (mg/L)						1	
	Secondary NH4 (eg/L)							
1	I PRIMARY REMOVAL							
2 2	I SECONDARY REMOVAL		1				3 8	
1	* * * * * * * * * * * * * * * * * * * *							
8	Influent TKN (mg/L)	i	i	i	i		i	1
1	Primary TKN (mg/L)		i	1	i	i	i	
1	Secondary TKN (ag/L)		i	i	i	i	i	1
9	I PRIMARY REMOVAL	i	i	i	i	i	;	
1 1	I SECONDARY REMOVAL		i	1		i	1	1
;	Influent Total P (mg/L)	!	1.50	!	1.50		1	
:	Primary Total P (mg/L)		1110		1:00	1	1	1
1 .	Secondary Total P (mg/L)	1	0.20	1	0.20	1	1	1
1	2 PRIMARY REMOVAL	1	1 20 1	1	7.20	1	1	1
1	Z SECONDARY REMOVAL	1 1	86.7	1	86.7 :	1	3	1

PLANT NAME: Belle River (Maidstone) PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

Part	CONTAM: CONTAMINANT NAME	UNITS &	UNITS QC PLANT CODEMIN. CONC. 1	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL #	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.
The component   The componen															
Total	CHEMICAL, OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL, PILT. REAC, NITROGEN-TOT-KJEL, UNF. TOT ELOGHH-CONCN), PHOSPHORUS, UNFILT. TOTAL RESIDUE, PARTICULA TE BOD, 5 DAY -TOTAL DEMAND NITRATES, TOTAL PELT. REAC.	mer. O me	112.00 8.80 11.00 15.30 7.05 3.08 26.90 24.80 0.25	162.00 12.10 12.20 16.50 7.34 3.50 62.60 54.00	<b>.</b>	. ଅପର୍ଷ୍ୟ ବ୍ୟବ	100.0 100.0 100.0 100.0 100.0 100.0 80.0	260 271 273 273 275 248 267 267 275	258 271 273 273 248 266 266 28	99.2 100.0 100.0 100.0 100.0 99.6 99.6	136.59 10.28 11.87 16.07 7.18 3.27 44.01 24.39 0.05	287.75 22.39 15.37 25.44 6.90 5.18 126.88 140.23	1.13 1.13 1.04 1.03 1.05 1.37 2.69 2.89	1.82 1.83 1.65 1.05 1.93 2.33	100.0 100.0 100.0 100.0 100.0 100.0 32.4
NATION   N															
RACTABLE COMPOUNDS  MACTABLE COMPOUNDS  MACTABLE COMPOUNDS  MACTABLE COMPOUNDS  SAME TO SAME T	COPPER, UNFILT. TOTAL STRONTIUM, UNFILT. TOTAL ALUMINUM, UNFILT. TOTAL MERCURY, UNFILT. TOTAL ZINC, UNFILT. TOTAL COBALT, UNFILT. TOTAL SILVER, UNFILT. TOTAL GIROMIUM, UNFILT. TOTAL MOLYBBENUM, UNFILT. TOTAL			50.00 2050.00 700.00 0.24 70.00 30.00 10.00 30.00	-00000000		100.0 100.0 83.3 83.3 83.3 83.3 83.3 16.7	322 322 322 322 322 321 321	48 318 306 274 315 82 82 82 41	25.5 25.5 25.5 25.5 25.5 25.5 25.5 25.5	\$0.00 390.00 0.10 60.00 20.00 10.00	110.60 370.70 1000.10 0.23 211.00 9.30 10.40 51.10	0.00 1.110 2.112 3.74 1.115 1.272 1.30 1.98	2.28 2.14 2.16 2.16 2.16 2.17 2.17 2.17 2.17 2.17	97.1 100.0 97.3 100.0 100.0 105.0 83.8 89.2 89.2
OXYACETICACID ug/L 3 0.04 0.10 5 5 100.0 276 214 77.5 0.07 0.13 1.44 3.72 1.4 1.72 0.07 0.13 1.44 3.72 1.4 1.42 0.02 0.03 5 3 60.0 2.76 14.3 51.8 0.02 0.02 2.02 2.29 1.2.7 0.04 0.01 4.90 2.48 1 20.0 2.76 4.2 15.2 0.05 0.05 1.44 2.31	(AL AND ACID EXTRACTABLE CO BUTYLBENZYLPITHALATE	MFOUNDS ug/L 1	15.70	18.60	s,	8	40.0	275	¥	12.4	8.17	5.85	1.97	1.66	37.8
	PESTICIDES, HERBICIDES, PCBS P32B 24-DICHLOROPHENOXYACETIC AC P1 BHCG GAMMA-BICCHEXCHLOROPCILEX X2124 1,24-TRICHLOROBENZENE PHCBT PCB, TOTAL	3333	0.004 0.005 0.005 0.009	0.10 0.05 0.48 0.09	w w w w	୬ ଶ ଶ ≃	100.0 60.0 20.0	276 276 276 276	214 143 35 42	77.5 51.8 12.7 15.2	0.07 0.02 0.04 0.05	0.13 0.02 0.01 0.06	1.44 2.02 4.90 1.44	3.72 2.29 2.48 2.31	0.5 % 6.5 %

PLANT NAME: Belle River (Maldatone) PLANT TYPE: Secondary

STD. FOR STD. REF.

CONTAMINANT NAME

CONTAM-

INANT

GLOBAL & PREV.

GLOBAL GEO.

PLANT GEO.

GLOBAL % FREQ.

GLOBAL

GLOBAL

PLANT

PLANT

SAMPLING TYPE : Final Effluent SAMPLE FORM: Wet Weight

96.4 96.4 96.4 96.4 96.4 96.4 96.4 00.0 82.1 00.0 00.0 89.3 32.1 96.4 14.3 28.6 17.9 17.9 18.3 3.6 GLOBAL SPREAD FACTOR 8558 22.00 20 20.00 20 45425 132 132 143 143 181 181 286.94 27.78 PLANT SPREAD FACTOR 340.90 6.40 0.03 53.30 22.10 9.00 \$2.80 8.09 2.33 7.97 7.10 10.12 0.68 21.22 0.22 3.90 0.00 50 20 05 380.00 1510.00 10.00 0.02 10.00 20.00 276 8.33 8.28 0.94 7.29 8.12 0.33 0.02 0.00 99.1 83.0 99.6 99.6 99.5 99.5 99.5 74.2 00.0 24.4 98.1 51.3 15.9 68.2 2.2 4.0 3.1 DET. DET. 196 262 262 262 171 137 36 137 7 4 7 SAMPLES 222 267 286 286 222 2222 % FREQ. DET. 100.0 100.0 100.0 100.0 100.0 40.0 20.0 83.3 83.3 83.3 86.7 80.0 80.0 40.0 20.0 0.00 N N N N N N N T T -SAMPLES 600.00 PLANT FLANT MIN. CONC. MAX. DET. 32.00 4.70 9.25 1.40 7.32 9.10 0.40 0.19 0.19 10.00 0.02 20.00 10.00 250 0.02 CONC. 00.01 0.03 00.00 00.00 00.00 00.00 00.00 00.00 00.00 00.00 9 2 9 9 9 > DL NYS-STD ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB NYS-GUL NYS-GUL NYS-STD ONT-MOB ONT-MOB ONT-MOR ONT-MOB UNITS QC STD. FUR CODE SURFACE 75.00 5.00 5.00 30.00 25.00 50.00 0.50 000 WATER 000000000 0000000 3333 22222 22222 5555555 2222 24-DICHELOROPHENOXYACETIC ACID GAMMA-BHC(HEXCHLORCYCL/HEXANE) DISSOLVED ORGANIC CARBON NITRATES, TOTAL FILT. REAC. NITROGEN-TOT-KJEL, UNP.TOT AMMONIUM, TOTAL FILT REAC. CHEMICAL OXYGEN DEMAND PHOSPHORUS, UNFILT TOTAL BOD, 5 DAY -TOTAL DEMAND NITRITE, FILT. REACT. BROMODICHLOROMETHANH CHLORODIBROMOMETHANE ALUMINUM, UNFILT. TOTAL STRONTIUM, UNFILT. TOTAL CHROMIUM,UNPILT.TOTAL 1,2,4-TRICHI, OROBENZENE COBALT, UNFILT. TOTAL MERCURY, UNFILT. TOTAL CHLOROFORM ALMIA-CHLOROTOLUENE RESIDUE, PARTICULATE VOLATILES ORGANIC COMPOUNDS ZINC, UNFILT. TOTAL. NICKEL, UNFILT. TOTAL. HEXACIE OROETHANE PESTICIDES, HERBICIDES, PCBS (-LOG(H+(CONCN)) PCB, TOTAL CONVENTIONALS NNOTPR NNTKUR PH RSP PPUT BODDS NNO2PR NNOTPR XICDBM XIBDCM P324D P18HCG X2HCE XIACTO X2124 SRUT COULT HGUT ZNUT NIUT CRUT

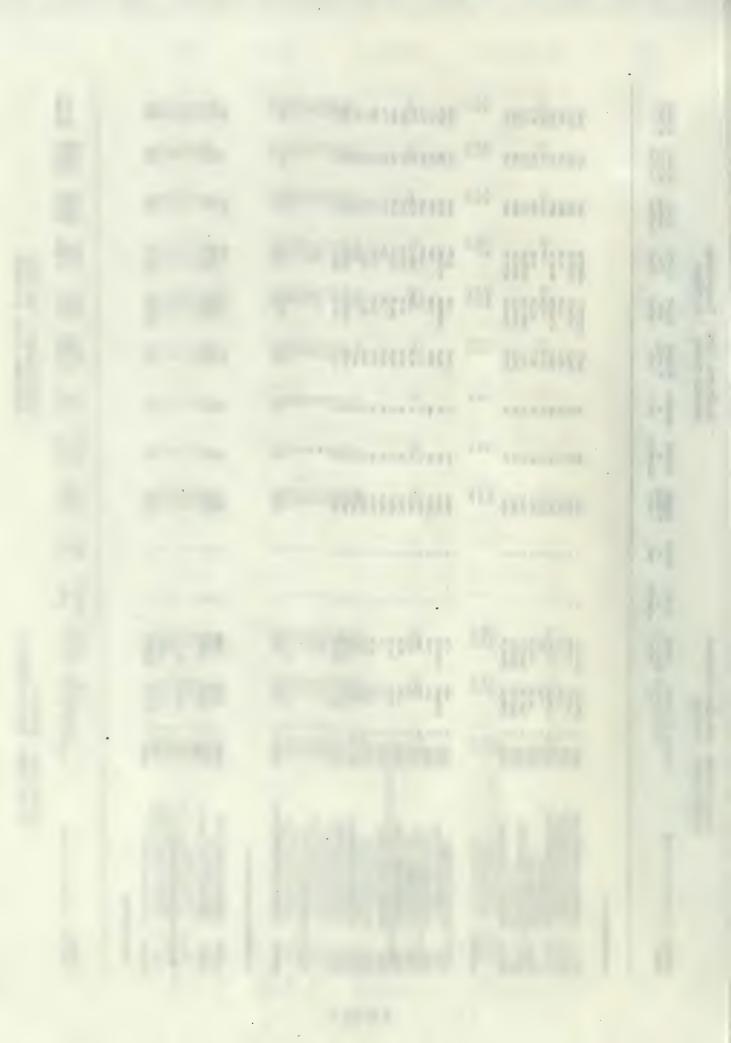
PLANT NAME: Belle River (Maidstone) PLANT TYPE: Secondary

GLOBAL. S. PREV. 50.0 0.00 0. 84.4 000.0 173.3 173.3 100.0 000.0 000.0 000.0 35.3 GLOBAL SPREAD FACTOR 2221 238 4.24 SPREAD FACTOR 000 0.00 8 9 9 9 9 9 9 9 90.0 GLOBAL GEO. MEAN 892221.45 5911.32 25.44 36897.85 6.03 20347.70 32783.51 20803.05 301.7 66.31 9.29 301.43 606.31 2.23 3.04 231.70 905.39 116847.30 5.90 6.00 225.10 SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight GEO. MEAN 25.90 34.50 206.90 4465.52 30.17 6.82 36637.93 11600.00 7310.00 508.62 232.80 50344.83 11379.30 GLOBAL, S. FREQ. DET. 88.9 100.0 73.2 98.0 100.0 100.0 35.3 23.5 GLOBAL DET 3288383838 3 6 3 7 SAMPLES GLOBAL. PLANT % FREQ. DET. 100.0 1000 0000 DET. SAMPLES PLANT MAX. DET. 508.62 34.50 CONC. 30.17 60344.83 6.82 36637.93 11600.00 7310.00 18.10 75.86 587.07 1.72 6.03 1206.90 232.80 41379.30 UNITSQA/QC PLANT CODE MIN. CONC. 1 34.50 30.17 60344.83 6.82 11600.00 508.62 232.80 41379.30 > DL 4465.52 36637.93 00000 ng/kg 222 mg/kg mg/kg mg/kg ne/kg BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS ALPHA-CHLORDANE GAMMA-CHLORDANE 24-DICHLOROPHENOXYACETIC ACID CHEMICAL OXYGEN DEMAND AMMONIUM, TOTAL FILT. REAC. NITRATES, TOTAL, PILT. REAC.
NITROGEN-TOT-KJEL, UNF. TOT PHOSPHORUS, UNFILT. TOTAL SELVER, UNFELT TOTAL
ALUMINUM, UNFILT TOTAL
ARSENIC, UNFILT TOTAL
COBALT, UNFILT TOTAL RESIDUE, TOT LOSS ON IGNI CORPUR, UNPILT. TOTAL. CORPUR, UNPILT. TOTAL. MERCURY, UNPILT. TOTAL. STRONTIUM, UNPILT TOTAL SELENIUM, UNFILT. TOTAL. CONTAM: CONTAMINANT NAME CHILOROPORM (CHCL.3) VOLATILE ORGANIC COMPOUNDS ZINC, UNFILT. TOTAL PESTICIDES, HERBICIDES, PCBS (·LOG(IH(CONCN)) RESIDUE, TOTAL PMMCRE M-CRESOL CONVENTIONALS XIGHLO COD NNHIPR NNOTHR NNTKUR METALS PICHIA PICHIA P324D INANI ALUTASSUT

(Maldstone)	
Belle River	Secondary
NAME	TYPE
PLANT	PLANT

SAMPLING TYPE: Treated Studge SAMPLE FORM: Dry Weight

CONTAM	CONTAM: CONTAMINANT NAME	UNITSQ	UNITSQA/QC PLANT CODEMIN. CONG. N DL	ů.	PLANT IAX. DET. CONC. 8	PLANT # SAMPLES	PLANT BET.	PLANT S. FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	FLANT GEO. MEAN	GEOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.	
CONVENTIONALS	HONALS																1
COD NNUTTR NNOTER NNTKUR PH PHUT RST RST	CHEMICAL OXYGEN DEMAND AMBONIDA, TOTAL IN T. REAC. NITRATES, TOTAL, FILT REAC. NITROGEN TOT KIEL, UNF. TOT (1.XXQH-(CONCN)) PHENOLICS (4AAF) PHOSPIORE, TOTAL RESIDUE, TOTAL RESIDUE, TOTAL		0 822727.27 0 1419.58 0 4720.50 0 4720.50 0 262.34 0 36013.99 0 28600.00 0 17400.00	82277 141 141 4720 28 3601 28601	227.27.27 1419.38 12.24 17.20.80 6.66 262.24 86013.99 28600.00			100.0 100.0 100.0 100.0 100.0 100.0	82884828	88844488	100.0 100.0 100.0 100.0 100.0 100.0	822727.27 1419.58 12.24 47202.80 6.66 262.24 36013.99 28600.00	508097.94 17658.28 42.68 38494.12 7.17 43.05 76638.67 80434.04	888888888	4.65 2.29 2.29 1.77 1.09 3.14 6.91 3.19	100.0 100.0 100.0 100.0 100.0 100.0 100.0	
METALS																	
AGUT ASUT CDUT	SBLVER, UNPELTTOTAL, ALLUMEUJA, UNPELTTOTAL, ARSIENIC, UNPELTTOTAL, CODALINA, UNPELTTOTAL, CODALITY THANKET THOTAL,		4195		41958.04 9.44 2.10	and one and and o	and and and put or	0.001	28828	<b>4804</b> 8	100.0 100.0 98.0 91.1	4.20 41958.04 9.44 2.10	37.78 10715.94 5.40 10.47	88888	2.83	100.0 100.0 97.1	
COUT CRUT CUUT HIGUT NIUT PBUT SEUT SRUT	CORBAT, UNFILL TOTAL. COPREM, UNFILL TOTAL. COPPER, UNFILL TOTAL. NICKEL, UNFILL TOTAL. LEAD, UNFILL TOTAL. LEAD, UNFILL TOTAL. SELENRIM, UNFILL TOTAL. STEAKUM, UNFILL TOTAL. STROKTUM, UNFILL TOTAL. ZINC, UNFILL TOTAL.		420 4545 0 59830 0 15.00 0 15.00 0 1363.64 0 489.51		4.20 45.45 598.95 1.75 16.08 559.44 5.59 1363.64 489.51			100.0 100.0 100.0 100.0 100.0 100.0	888888888	26 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	82.1 100.0 100.0 98.0 98.0 96.0 100.0	4.20 48.45 598.95 1.75 16.08 19.44 5.59 1363.64 489.51	9.14 333.06 732.24 72.95 196.62 267 240.93 988.90	888888888	2.73 2.73 2.26 2.28 2.28 2.24	85.7 100.0 100.0 97.1 97.1 100.0 100.0	
P98CDD	DIOXINS AND FURANS 98CDD OCTACH ORODIBENZODIOXIN	ng/gu	E1	3.50	3.50	-	-	100.0	64	82	53.1	3.50	7.10	0.00	3.84	25	
PICHIA PICHIA PIPCBT	PESTICIDES, HERBICIDES, IX. BIS PICHIA ALPHA-CHEORDANE PICHIC GAMMA-CHEORDANE PICHIC FCB, TOTAL.	8 8 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	2 10 10	10.50 10.50 10.50 10.94.40	10.50 10.50 94.40			100.0 100.0 100.0	2 2 2 2	32	4 4 2 0 0 0 0 0	10.50 10.50 94.40	6.50 6.80 114.10	0.00	2.41 2.58 4.58	55.9 52.9 67.7	
VOLATILL	VOLATILES ORGANIC COMPOUNDS  KICHLO  CHLOROPORM (CHCL3)	ng/kg	1 12937.10	-	2937.10		-	100.0	90	13	24.0	12937.10	441.70	0.00	4.33	35.3	



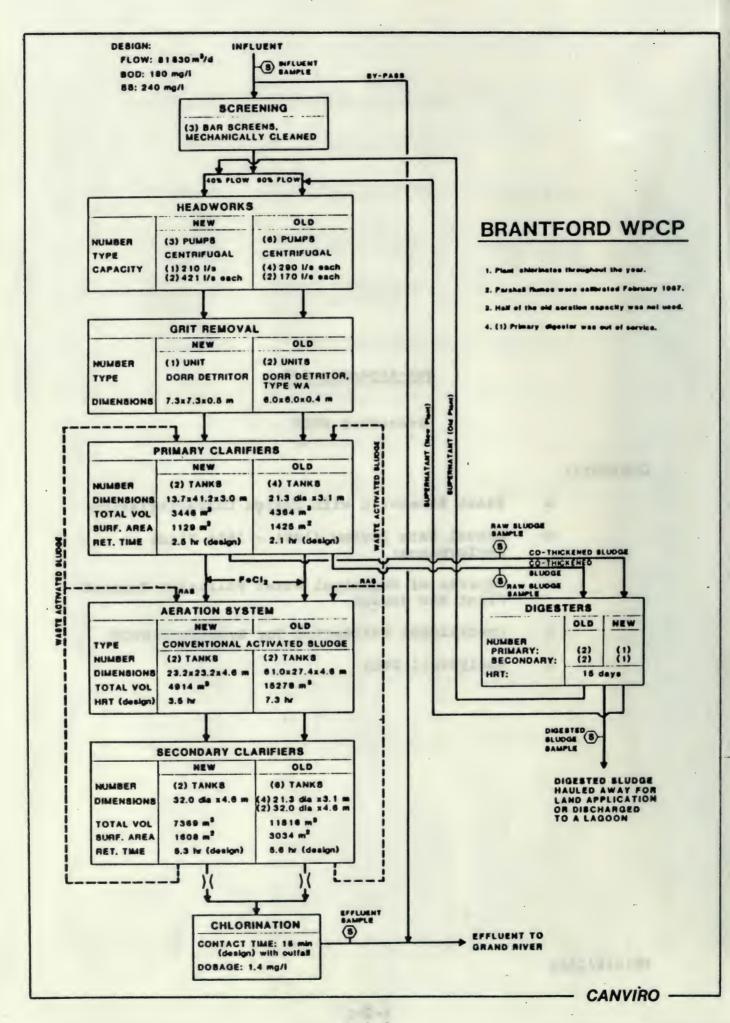
### Sub-Appendix A-2

### Brantford WPCP

### Contents:

- o Plant Schematic with Design Characteristics
- O Annual Data Review (1981 1986 Plant Performance)
- O Sources of Municipal Water Pollution Control Plant Raw Sewage
- Operational Evaluation for Brantford WPCP
- o Analytical Data

(KIR18/28A)



BRANTFORD WPCP Conventional Activated Sludge Phosphorus Removal - Continuous Capacity - 81,828 18(3) m3/day

PARAMETER	1981	1982	1983	1984	1985	HEAN ANNUAL AVERAGE
Avg. Daily Flow (1888 m3/day)	43.36	49.86	49.28	54.86	58.51	58.85
BOD5 - Influent (mg/L) BOD5 - Effluent (mg/L) Annual BOD5 Significantly	169.75 14.96	174.88	168.75 11.53	136.50	168.42	161.88
Different from Mean Annual Average BOD5?	Y	N	N	N	Y	;
TSS - Influent (mg/L) TSS - Effluent (mg/L) Annual TSS Significantly	222.67	234.67	225.17 5.93	212.33 7.35	219.75 8.11	222.92
Different from Mean Annual Average TSS?	i N	N	; Y	N	N	:
Total P - Influent (mg/L) Total P - Effluent (mg/L) Annual TP Significantly Different from Mean	6.52	6.21	6.48	5.84	5.36 8.75	5.92 8.78
Annual Average TP? TP in Compliance?	Y	N Y	N Y	N Y	N Y	Y

I.D. - Insufficient Data

### SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

### GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE  DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	BRANTFORD WPCP 110000043 CONVENTIONAL ACTIVATED SLUDGE PHOSPHORUS REMOVAL CONTINUOUS 81.828 52.517 73000
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	40
COMMERCIAL SOURCES (%) (Population x 0.0757)	11
RESIDENTIAL SOURCES (%) (Population x 0.175)	24
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from industrial, commercial and residential sources)	N 25
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	203 133 45

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	SIC	# OF COMPANIES
MACHINERY MFG MISC CONVERTED PAPER PRODUCT TEXTILE PRODUCTS RUBBER MFG/PROCESSING	3500-359 2647-265 2271-229 3011-306	5 9 9 5
PULP, PAPER, PAPER BOARD	2600-263	1 1

### OPERATIONAL EVALUATION FOR:

### BRANTFORD WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: March 13, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 81,830 m3/d

1 1				PRE-SA	MPLING PER	IOD		
11	PARAMETER :	DAY 1 :	DAY 2 1	DAY 3	DAY 4 1	DAY 5	DAY 6	
=:								
1 1	2 0	1	1	1	+	1	1	
1 1	RAW SEWASE FLOW	50,750 ;			49,550	,		
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	I of Design Flow	62.02%	-		60.55%		60.371	57.17%
11	1	1	1	1	1	1	ž.	
11	Influent BOD (mg/L)		186.0 ;				}	
1 1	Primary BOD (mg/L)	1	161.8 :	2 2	1	2	1	
3 S 1 1	Secondary BOD (mg/L)	2 8	20.0 :	2 3	2 2	1	2 2	•
2 2	2 PRIMARY REMOVAL	1	13.0 :	1	1	1	3 3	
3 1	% SECONDARY REMOVAL	1	89.2 :	1	1	1	8 8	
11	Influent SS (mg/L)	262.0	164.0	234.0 (	178.0	214.0	;	210.0
11	Primary SS (mg/L)	82.4 :	109.6 :	102.0 :	99.2 1	81.2 :	\$ 1	94.8
11	Secondary SS (mg/L)	11.7 1	15.4 1			24.8 :	2	17.3
11	2 PRIMARY REMOVAL	68.5 1	33.2 :		44.3 1	62.1 ;	1	54.9
11	% SECONDARY REMOVAL	95.5 1	90.6 :	94.5	- 87.6 !	88.4		91.8
	Influent NH4 (mg/L)		3	1		1		
1 1	Primary NH4 (mg/L)	8 8	1	1	1	3 8	2 2	
1 1	Secondary NH4 (mg/L)	1	1	1	1	9	1	
1 1	Z PRIMARY REMOVAL	#	B 1	;	1	2 2	2 2	
	% SECONDARY REMOVAL	1	1	1		1	1	i
11	Influent TKN (mg/L)	!	·	!	!			
11	Primary TKN (mg/L)	1	1					
11	Secondary TKN (mg/L)		1			1		
5 3	7 PRIMARY REMOVAL	1	3 3	1	1	1	}	
1 1	% SECONDARY REMOVAL	3 2	1	2 3	:	2 2	1	
11-								
1 1	Influent Total P (mg/L)	1	6.24	8 2	7.64 1	1	2	6.94
2 2 5 5	Primary Total P (mg/L)	1	1	2 1	}	1 2	3 9	
11	Secondary Total P (mg/L)	0.92 1	1.68 1	1.46	1.98 :	2.28 ;	1	1.66
11	% PRIMARY REMOVAL	8 8	\$ 3	1	2	*	1	
3.2	% SECONDARY REMOVAL	E 8	73.1 1	1	74.1 1	1	1	76.1

### OPERATIONAL EVALUATION FOR:

### BRANTFORD WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: March 13, 1987

SAMPLING SEASON:

Winter (Cold Weather)

DESIGN AVG FLOW: 81,830 m3/d

11				ODE_CA	MPLING PER			
11				אכ-בהק	TELING FER			
11	PARAMETER	DAY 8 :	DAY 9	DAY 10 1			DAY 13 :	
11		1	;	1	1	;	1	
11	RAW SEWAGE FLOW	53,768	53,473	53,641 !	52,977 :	54,350	49,850 :	48,450
11	% of Design Flow	65.71%	65.352	65.551	64.74%	66.42%	60.921	59.21%
11	Influent BOD (mg/L)		279.0		173.0			
11	Primary BOD (mg/L)	1	155.2 1	1	118.2 :	;	1	1
11	Secondary BOD (mg/L)		19.0 :	1	22.0 1	1	. :	
11	Z PRIMARY REMOVAL	1	44.4	1	31.7 1	;	1	1
11	% SECONDARY REMOVAL	1	93.2 1	1	87.3 1	1		
11	Influent SS (ag/L)	246.0	258.0	218.0	172.0	198.0		218.0
11	Primary SS (mg/L)	68.0 1	88.4 1	64.4 1	70.4 :	52.8 1	:	68.6
11	Secondary SS (mg/L)	13.2 1	13.9 1	15.2 ;	10.8 ;	9.6 ;	;	12.5
11	Z PRIMARY REMOVAL	72.4 1	65.7 1	70.5 1	59.1 1	73.3 1	1	68.5 1
11	Z SECONDARY REMOVAL	94.6 1	94.6	93.0 1	93.7 1	95.2 1	1	94.3
11	Influent NH4 (mg/L)		· · · · · · · · · · · · · · · · · · ·	;		· · · · · · · · · · · · · · · · · · ·		
11	Primary NH4 (mg/L)	1	;	1	1	1	1	- 1
11	Secondary NH4 (mg/L)		1	1	;	;	;	
11	Z PRIMARY REMOVAL		1	1	1	1	1	1
11	% SECONDARY REMOVAL		1			\$	;	
11	Influent TKN (mg/L)		i	1			;	1
1 1	Primary TKN (mg/L)	1	1	1	1	;	i	1
11	Secondary TKN (mg/L)	1	1	:	.1	;	:	
11	Z PRIMARY REMOVAL			:	:	1	1	1
11	Z SECONDARY REMOVAL	;	;	;	1	1	3 1	1
11								
11	Influent Total P (mg/L)	;	8.80	1	7.96 :	1	3	8.38
11	Primary Total P (mg/L)	1	1 1	1	1	1	1	1
1 1	Secondary Total P (mg/L)	0.86	1.38	1.46 !	0.92 :	1.38 1	1	1.20
11	7 PRIMARY REMOVAL	;	1	1	1	;	i	1
11.	% SECONDARY REMOVAL	:	84.3	1	88.4	1	1	85.7 1

### OPERATIONAL EVALUATION FOR: BRANTFORD NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: March 13, 1987
SAMPLING SEASON: Winter (Cold Weather)
DESIGN AV6 FLOW: 81,830 m3/d

1 2				SAMP	LING PERIC	10			
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		DAY 15						DAY 21	
=	***************************************	1 1				,			
0 0 1 B	RAW SEWAGE FLOW	53,700	54,350	53,500 :	50,550	56,050	50,000 ;	43,636	5
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	I of Design Flow	65.62%	66.421	65.382	61.772	68.50%	61.102	53.33	1
-	Influent BOD (mg/L)		179.0 (	199.0 :				189.0	
	Primary BOD (mg/L)	:	177.2 1				1	157.6	
2	Secondary BOD (ag/L)		15.0 :					16.0	
	% PRIMARY REMOVAL	1 1	1.0 :					16.6	
9 9	% SECONDARY REMOVAL	1	91.6 1				8	91.5	1
1	Influent SS (mg/L)	304.0	164.0	220.0 :	170.0	356.0		243.0	
8 8	Primary SS (mg/L)	44.8	67.6 :	70.0 :				67.8	
9 9	Secondary SS (ag/L)	7.9 1	20.8 :	13.5 :	6.8	8.8	1	11.6	
8	Z PRIMARY REMOVAL	85.3	58.9 :	68.2 :	49.4	80.0 :	1	72.1	
2 2 2	% SECONDARY REMOVAL	97.4	87.3 :	93.9 :	96.0	97.5 1	1	95.2	
1 1	Influent NH4 (ag/L)			;	:		i		
9 8	Primary NH4 (mg/L)	: :	3 8	1	2 2	1	9 8		
8	Secondary NH4 (mg/L)	1	8 8	2 2	5	1	1		
5 8	I PRIMARY REMOVAL	1 1	2 2	2 2	2 2	1	1		
1	% SECONDARY REMOVAL	·	:				3 8		
1	Influent TKN (mg/L)	1	1	2		1			-
8	Primary TKN (mg/L)	1	3	1	!	1	1 1		
8	Secondary TKN (mg/L)	:	ŧ	8	:	1	1		
8	Z PRIMARY REHOVAL	;	3	!	2	1	1		
1-	Z SECONDARY REMOVAL	!!				1	1		-
3	Influent Total P (mg/L)		6.64	;	7.00	1	1	6.82	
3 2	Primary Total P (mg/L)	1	1	1 1	;	2	2 2		-
8	Secondary Total P (mg/L)		1.22	1	0.56 1	1	1	0.78	
	7 PRIMARY REMOVAL		01.1.1	1	1	1	:		8
i	Z SECONDARY REMOVAL	i	81.6 1	1	92.0 :	1	2 1	88.6	1

### OPERATIONAL EVALUATION FOR:

### BRANTFORD WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING:

June 10, 1987

SAMPLING SEASON:

Summer (Warm Weather)

DESIGN AVE FLOW:

B1,830 m3/d

			PRE-SAI	MPLING PER	100		
PARAMETER	! DAY 1 !			DAY 4 (			DAY 7
RAN SEWAGE FLOW	59,100	60,150	59,559	60,291	59,395		47,986
% of Design Flow	72.221	73.51%	72.78%;	73.68%	72.58%		58.642
Influent BOD (mg/L)		241.0		261.0			251.0
Primary BOD (mg/L)	1	159.2 :	1	150.2 1	1	1	154.2
Secondary BOD (mg/L)	1 1	18.0 1	1	21.0 1	1		19.5
% PRIMARY REMOVAL	1 1	33.9 1	1	42.5 1	1		38.6
% SECONDARY REMOVAL	:	92.5 !	3 1	92.0 1		ž	92.2
Influent SS (mg/L)	238.0	214.0	248.0	236.0	1	1	318.0
Primary SS (mg/L)	1 58.4 1	78.8 1	32.4 1	66.0 :	92.4 1	1	66.0
Secondary SS (mg/L)	11.8 :	15.6 !	26.7 :	20.3 :	16.8 1	1	18.2
I PRIMARY REMOVAL	1 75.5 1	63.2 1	86.9 !	72.0 1	1	1	79.2
% SECONDARY REMOVAL	1 95.0 1	92.7 1	89.2 1	91.4 1	1	1	94.3
Influent NH4 (mg/L)	;; !	i					
Primary NH4 (mg/L)	i		1.				
Secondary NH4 (mg/L)			:	i			
Z PRIMARY REMOVAL	i	1		i	;	1	
Z SECONDARY REMOVAL	i i	1 1	1				
Influent TKN (mg/L)	1	1	1	1	1	1	
Primary TKN (mg/L)		1		1	i		
Secondary TKN (mg/L)			i	•	i		
Z PRIMARY REMOVAL	• i	i	i	i	i	i	
% SECONDARY REMOVAL	i i !!	i :	i 	i !:	i {-	i {-	
Influent Total P (mg/L)	i	6.08 :	i	6.24 1	1		6.16
Primary Total P (mg/L)	1	2 2	- 1	1	1	1	
Secondary Total P (mg/L	0.76 :	1.00 ;	1.82 1	1.22 :	0.92 1	1	1.14
% PRIMARY REMOVAL	1	1	1	1	1	1	
% SECONDARY REMOVAL	1 1	83.6 1	1	80.4 :	1	- 1	81.5

### OPERATIONAL EVALUATION FOR:

### BRANTFORD WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: June 10, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 81,830 m3/d

3 3	9 9					PRE-SA	MPLING PER	IOD		
3	1	04044555			244 5	339 46 1	749 44 1	DAY 40 4	BAU 17 1	BAV 44
	1	PARAMETER :				DAY 10 :				
	1	!		!		!	!	!	!	
	1 1	RAN SEWASE FLOW	55,932	2	58,636	57,695	58.691	60.082	52,714	
	2	INTERPOLITION I	001702	1	7	1				
-		% of Design Flow	68.35	7:		70.5111				
	1 1	1		å ž						
9	!			-;						
1	8	Influent BOD (mg/L)		1	1	1 2	186.0	ł	1	186.0
1	2 8	Primary BOD (mg/L)			1	1	116.8	ŧ	-1	116.8
3	2	Secondary BOD (mg/L) :	-	2 2	1	1	4.0	1	1	4.0
9	8.	Z PRIMARY REMOVAL		2 2	1	1	37.2 :		;	37.2
	2	I SECONDARY REMOVAL		3	1	2 3	97.8	8	2	97.8
				-1-						
	2	Influent SS (mg/L)	366.0	-	242.0		172.0			282.0
	1	Primary SS (mg/L)	54.8		60.8		67.2			0114
	1	Secondary SS (mg/L)	9.8		5.7		5.7			
	1	Z PRIMARY REMOVAL	85.0		74.9		60.9			79.1
3	1	Z SECONDARY REMOVAL	97.3		97.6		96.7	97.7 1		97.4
1		Tathurah Mild (and)		-;						
	9 9	Influent NH4 (mg/L) : Primary NH4 (mg/L) :		1		i	1	i	i	
		Secondary NH4 (mg/L)		1		1	i	i	i	1
	4	I PRIMARY REMOVAL		9	1	1	1	3	. 1	
	8	I SECONDARY REMOVAL		2	1		1	1		
	!	* DECUMPANT VEHOVAL		-!		!		!	!	
		Influent TKN (mg/L)		:						
	1	Primary TKN (mg/L)				2				
		Secondary TKN (mg/L)								
1		% PRIMARY REMOVAL		1				1	1	
1	1 1	% SECONDARY REMOVAL		8		2	1	4	1	
-	1			-   -						
1	1	Influent Total P (mg/L)		1			7.00	4	1	7.00
1	1 1	Primary Total P (mg/L)		1		2	2	1	1	
		Secondary Total P (mg/L)	0.80	3	0.62	1	0.56	1.00 :	3 2	0.74
1	1 1	Z PRIMARY REMOVAL		8		1	1	2 2	1	
1	1	% SECONDARY REMOVAL		1		1	92.0	1	1	

### OPERATIONAL EVALUATION FOR: BRANTFORD WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: June 10, 1987

SAMPLING SEASON: Sugger (Warm Weather)

DESIGN AVG FLOW: 81,830 m3/d

1 ! 1 ! 2 ! 2 !	·			SAMP	LING PERIO	D		11
	PARAMETER		DAY 16 1					DAY 21
1 0 1 1 2 0 2 0 2 0 2 0 1 1	RAW SEWAGE FLOW	57,036 ; 69,702;	57,136 ; 1 69.822;	0.00Z;	60,286 ; 73.671;	54,864 ; 67.05%;	1	51,600
	Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL						          	
	Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) 1 PRIMARY REMOVAL 2 SECONDARY REMOVAL						1	
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL			1	2 3 3 3 2 3 2 3	1		11
/ l	Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL				1	1 2 3 3 3 3 3 3 3 3		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) % PRIMARY REMOVAL % SECONDARY REMOVAL			1	1	1		11

GLOBAL.

GLOBAL SPREAD FACTOR

PLANT SPREAD PACTOR

GLOBAL GEO. MEAN

PLANT GEO. MEAN

GLOBAL % FREQ. DET.

GLOBAL

GLOBAL

PLANT % FREQ. DET.

MANT # DET.

UNITS QC PLANT PLANT PLANT
CODE MIN. CONC. MAX. DET. #
> .. DL CONC. SAMPLES

CONTAM. CONTAMINANT NAME INANT

100.00   250   258   99.2   254.21   257.5   100.00   258.4   100.00   259.7   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   100.00   22.39   22.
273         274         99.8         11.16           274         275         100.0         6.87           275         275         100.0         6.87           271         286         99.6         209.06           271         28         20.0         6.87           271         28         20.0         6.87           271         28         20.0         6.87           271         28         20.0         6.87           271         28         20.0         6.87           272         27         4.8         0.0           283         27         4.8         0.0           283         27         4.8         0.0           283         27         4.9         0.0           283         27         4.9         0.0           283         27         3.0         0.0           284         4.9         9.6         0.0           285         27         4.9         9.6         0.0           285         1.8         2.9         3.8         0.0           286         2.2         2.2         8.6         0.0
248         273         100.0         687           248         248         100.0         462           267         266         99.6         209.66           271         38         98.9         176.88           271         36         99.0         209.00           283         274         90.8         176.88           273         48         98.9         176.00           273         277         48         90.0         4100           271         318         99.7         360.00           272         318         99.7         360.00           273         318         99.7         360.00           272         318         99.7         360.00           322         318         99.7         360.00           322         318         99.7         360.00           322         318         99.7         360.00           322         31.2         41         12.8         360.00           323         167         60.7         21.03         22.2           275         16         7         21.03         22.2         82.4           276 </td
267         266         99.6         209.06           271         266         99.6         209.06           271         28         21.4         0.01           322         230         95.0         1230.00         1           49         248         91.0         40.00         1           243         274         96.8         90.00         1           312         237         73.6         80.00         1           312         237         73.6         40.00         1           312         315         99.7         360.00         1           312         315         99.7         360.00         1           322         10.3         32.0         60.00         1           322         10.3         32.0         60.00         1           322         10.3         32.0         60.00         1           322         10.0         32.3         10.00         1           323         10.0         32.3         10.00         1           323         10.0         32.3         10.00         1           323         11.2         32.3         10.00<
271         58         214         001           322         306         95.0         1230.00         19           49         48         94.0         410.00         16           312         237         49.0         410.00         16           312         274         96.8         90.00         16           312         274         96.8         90.00         16           312         315         97.8         380.00         16           312         315         97.8         380.00         10           322         103         97.8         380.00         10           322         103         97.8         380.00         10           322         103         97.8         380.00         10           322         103         10.00         10         90         10           275         118         99.7         380.00         10         90         20           275         118         99.7         38         383         283         283         283         20         20           275         143         17.5         0         0         10
132         306         95.0         1230.00         19           49         48         98.0         410.00         48           49         48         98.0         410.00         16           319         318         99.7         360.00         16           322         318         99.7         360.00         16           322         318         99.7         360.00         16           322         318         99.7         360.00         10           322         318         99.7         360.00         10           322         313         32.0         60.00         10.00           322         32.5         10.00         10.00           322         32.5         10.00         10.00           321         41         12.8         20.00           321         41         12.4         60.2           275         116         42.9         9.38           276         47         17.5         0.03           276         47         17.0         0.01           276         47         17.0         0.01           276         16 <t< td=""></t<>
332         306         95.0         1230.00           348         237         73.6         80.00           248         237         73.6         80.00           343         274         96.8         0.16           342         315         99.7         360.00           371         82         30.3         10.00           322         103         32.5         10.00           322         76         23.6         10.00           322         76         23.5         10.00           321         41         12.8         20.00           275         16         5.8         5.83           275         16         5.8         5.83           275         16         5.8         5.83           275         16         5.8         5.83           275         16         5.8         5.83           275         14.3         5.1         6.00           276         14.3         5.1         6.00           276         14.3         5.1         6.01           276         1.4         77.5         0.03           276         1.4
49 48 98.0 410.00 312 313 274 96.8 0.16 313 314 99.7 36.00 322 315 99.7 36.00 322 32 32.0 60.00 322 82 25.5 10.00 321 41 12.8 20.00 275 167 66.7 21.03 275 16 6.0 2 275 118 42.9 9.38 276 214 77.5 0.38 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01 276 10 3.6 0.01
283         274         96.8         0.16           312         318         99.7         360.00           322         315         99.7         360.00           322         82         32.0         60.00           322         82         23.6         10.00           322         82         23.6         10.00           322         76         23.5         10.00           321         41         12.8         20.00           275         167         60.7         21.03           275         18         42.9         9.38           275         18         42.9         9.38           275         18         42.9         9.38           275         18         42.9         9.38           276         143         5.8         5.83           276         143         51.8         0.03           276         143         51.8         0.01           276         14         77.5         0.03           276         10         0.01           276         10         0.01           276         10         0.01
312         315         97.8         380.00           371         82         30.3         10.00           322         82         25.5         10.00           322         82         25.5         10.00           321         41         12.8         20.00           275         167         66.7         21.03           275         167         66.7         21.03           275         118         42.9         9.38           275         16         5.8         9.38           275         16         5.8         9.38           275         17         2.6         6.86           275         143         5.8         0.03           276         214         77.5         0.38           276         143         51.8         0.01           276         14         77.5         0.03           276         14         77.5         0.03           276         16         5.8         0.01           276         10         3.6         0.01           276         10         3.6         0.01           276         2 <td< td=""></td<>
322         103         32.0         10.00           322         103         32.0         10.00           322         10         25.5         10.00           321         41         12.8         20.00           275         11         23.6         10.00           275         118         42.9         9.38           275         118         42.9         9.38           275         11         24         60.2           275         16         2.6         6.86           275         16         2.6         6.86           275         14         77.5         0.38           276         143         51.8         0.03           276         143         51.8         0.01           276         14         77.5         0.03           276         14         5.8         0.01           276         10         3.6         0.01           276         10         3.6         0.01           276         10         3.6         0.01           276         2         3.3         0.04           276         3         0.0
332         82         25.5         10.00           321         76         23.6         10.00           321         41         12.8         20.00           275         167         60.7         21.03           275         118         42.9         9.38           275         118         42.9         9.38           275         16         5.8         5.83           275         16         5.8         9.38           275         16         2.2         6.86           275         6         2.2         8.24           276         14.3         51.8         0.03           276         14.3         51.8         0.03           276         14.3         51.8         0.01           276         14.3         51.8         0.01           276         16         5.8         0.01           276         10         3.6         0.01           276         10         3.6         0.01           276         2         3.5         0.04           276         3         0.7         0.01           276         3         0.7<
321         41         12.8         20.00           275         167         60.7         21.03           275         34         12.4         60.2           275         118         42.9         9.38           275         16         5.8         5.83           275         16         5.8         5.83           275         16         5.8         5.83           276         214         77.5         0.38           276         14.3         51.8         0.03           276         14.3         51.8         0.03           276         14         5.8         0.01           276         13         4.7         0.03           276         10         3.6         0.01           276         10         3.6         0.01           276         10         3.6         0.01           276         2         3.5         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3
275         167         66.7         21.03         2           275         118         42.9         9.02         2           275         118         42.9         9.38         1           275         16         5.8         5.83         1           275         7         2.6         6.86         6.86           276         214         77.5         6.82         8.24           276         47         17.5         0.38         2.2         8.24           276         47         17.5         0.03         2.2         8.24         0.01           276         47         17.0         0.01         0.01         0.01         0.01         0.01           276         13         4.7         0.05         0.01         0.0
275         167         60.7         21.03         2           275         118         42.9         9.38         1           275         118         42.9         9.38         1           275         16         5.8         5.83         1           275         7         2.6         6.86         6.86           275         6         2.2         8.24         8.24           276         143         77.5         0.03         9.24           276         143         51.8         0.03         9.9           276         13         4.7         17.0         0.01           276         14         77.5         0.03         0.01           276         16         5.8         0.01           276         10         3.6         0.01           276         10         3.6         0.01           276         10         3.6         0.01           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         <
275         118         42.9         9.38         1           275         16         2.8         5.83         1           275         16         2.8         5.83         1           276         214         77.5         0.38         2.4           276         143         51.8         0.03         0.03           276         143         51.8         0.03         0.01           276         13         4.7         0.03         0.01           276         13         4.7         0.00         0.01           276         10         3.6         0.01         0.01           276         10         3.6         0.01         0.01           276         10         3.6         0.01         0.01           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04
275         7         2.6         6.86           275         6         2.2         8.24           276         214         77.5         0.38           276         143         51.8         0.03           276         47         17.0         0.19           276         13         4.7         0.01           276         13         4.7         0.01           276         10         3.6         0.01           276         10         3.6         0.01           276         10         3.6         0.01           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04
276         214         77.5         0.38           276         143         51.8         0.03           276         47         17.0         0.19           276         47         17.0         0.19           276         13         4.7         0.03           276         16         5.8         0.01           276         1         0.4         0.01           276         10         3.6         0.01           276         10         3.6         0.01           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04
276         214         77.5         0.38           276         143         51.8         0.03           276         143         51.8         0.03           276         32         117.0         0.01           276         13         4.7         0.03           276         16         5.8         0.01           276         10         3.6         0.01           276         10         3.6         0.01           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         3.3         0.04           276         9         1.8         0.01           276         9         1.8         0.01
276 143 51.8 003 276 32 11.6 0.01 276 32 11.6 0.01 276 13 4.7 0.05 276 1 0.4 0.01 276 10 3.6 0.01 276 2 0.7 0.01 276 2 0.7 0.01 276 5 1.8 0.04
276         32         11.6         0.01           276         13         11.6         0.01           276         16         5.8         0.01           276         10         3.6         0.01           276         10         3.6         0.01           276         10         3.6         0.01           276         9         3.3         0.04           276         9         3.3         0.04           276         5         1.8         0.10
276         13         4.7         0.05           276         16         5.8         0.01           276         10         3.6         0.01           276         10         3.6         0.01           276         2         0.7         0.01           276         9         3.3         0.04           276         5         1.8         0.10
276 10 5.8 001 276 10 3.6 001 276 10 3.6 0.01 276 2 0.7 0.01 276 9 3.3 0.04 276 5 18 0.00
276 10 3.6 0.01 276 10 3.6 0.01 276 2 0.7 0.01 276 9 3.3 0.04 276 5 1.8 0.10
276 10 36 001 276 2 0.7 0.01 276 9 3.3 0.04 276 5 1.8 0.00
276 2 0.7 0.01 276 9 3.3 0.04 276 5 1.8 0.10
276 5 1.8 0.10
200
17.0 0.01
276 5 1.8 0.01

SAMPLING TYPE : Raw Sewage	SAMPLE FORM : Wet Weight	
PLANT NAME: Brantford	PLANT TYPE : Secondary	

		1					
	GLOBAL % PREV.	-	37.8 26.3 29.7 32.4 18.9 5.4 13.5				
	GLOBAL SPREAD FACTOR	P	202 1.56 1.75 1.75 1.74 1.12				
	PLANT SPREAD FACTOR		213 1.98 2.31 2.42 1.38 1.39				
ewage	GLOBAL GEO. MEAN		25.00 23.50 23.50 23.18 20.19 20.19				
SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight	PLANT GEO. MEAN		85.52 54.61 33.00 22.13 22.21 22.32	man.			702
NG TYPE	GLOBAL % FREQ. DET.		15.7 9.1 11.0 10.2 7.7 2.6				
SAMPLI	GLOBAL # DET		228827		duite.		
	GLOBAL ** SAMPLES		274 274 274 274 274				
	PLANT & FREQ. DET.		0.0000000000000000000000000000000000000				
	PLANT # DET.		0 m N W			,	
	PLANT # SAMPLES		222222				
	-		220.00 150.00 150.00 190.00 55.00 57.00				
tford	CODE MIN. CONC. MAX. DET.		52.00 42.00 45.00 55.00 55.00 60.00				
PLANT NAME: Brantford PLANT TYPE: Secondary	UNITS QC CODEA						
PLAN	CONTAMINANT NAME	VOLATILES ORGANIC COMPOUNDS	M., AND P.XYLENES O-XYLENE FIFHYLENE FIFHYLENE FIFHYLENE CHLOROFORM CARBON TETRACHLORIDE L,1-DICHLOROFITHANE				
	CONTAM.	VOLATILES	BZMPXY N BZMPXY C BZBBNZ E XICHLO C XILLIT I XICHT C XICHT C XICHT C XICHT C XIDGLE I I				

PLANT TYPE : Secondary PLANT NAME : Brantford

SAMPLING TYPE : Final Effluent

GLOBAL % FREV. 58.6 77.8 85.7 80.0 80.0 80.0 82.1 82.1 82.1 96.4 35.7 42.9 50.0 2.18 54558 GLOBAL SPREAD FACTOR PLANT SPREAD PACTOR 230 230 3.73 22.10 9.00 9.00 6.60 1.10 1.30 1.30 21.22 8.09 3.90 7.10 7.10 7.47 7.47 7.47 7.47 0.22 0.00 1.37 GLOBAL GEO. MEAN SAMPLE FORM: Wet Weight \$0.00 10.00 10.00 10.00 10.00 10.00 0.03 228 GEO. MEAN GLOBAL % FREQ. DET. 78.0 13.7 11.0 10.1 99.1 100.0 91.5 91.5 91.5 97.6 99.6 83.0 14.7 8.0 GLOBAL 211 220 220 222 222 224 226 226 219 219 33 F 2 2 2 2 2 37 DET. SAMPLES GLOBAL 2288882828 22222 777 FLANT FREQ. DET. 100.0 100.0 100.0 100.0 66.7 66.7 66.7 41.7 41.7 40.0 10.0 10.0 0.00 PLANT DET 4 4 000000104691 SAMPLES PLANT 2222 99 20222222222 77.00 124.00 16.10 14.50 7.54 0.49 13.40 11.80 0.10 MIN. CONC. MAX. DET. 160.00 140.00 160.00 160.00 160.00 160.00 160.00 160.00 160.00 160.00 160.00 160.00 31.00 2.40 20.00 10.00 10.00 10.00 20.00 20.00 10.00 10.00 6.70 8.90 5.95 5.95 6.88 6.88 6.88 6.88 0.19 0.25 0.03 0.00 3.80 STD. FOR STD. NEF. ONT-MOB ONT-MOB NYS-STD NYS-STD NYS-GUL ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOR DNT-MOB ONT-MOR DNT-MOR DNT-MOB ONT-MOB UNITS QC STD. FUR CODE SURFACE 25.00 3750.00 30.00 100.00 75.00 0.20 5.00 25.00 0.20 000 0.00 VATER 00000000000 00000000000 --22222 333333 33 55555555555 35555 24-DICHE, OROPHENOXYACETIC ACID GAMMA-BHC(FIEXCHLORCYCLJEXANB) METHOXYGILOR 24.5-TRICLORPHENOXYACETIC ACID SILVEX CONTAMINANT NAME DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL, FILT, REAC, NITROGEN-TOT-KJEL, UNP. TOT MOLYBDENUM, UNFILT. TOTAL ALUMINUM, UNFILT. TOTAL CADMIUM, UNFILT. TOTAL CHEMICAL OXYGEN DEMAND CYANIDE-PREE, UNFILT REAC. BOD, 5 DAY -TOTAL DEMAND (-LOG(H+(CONCN))
PHOSPHORUS,UNPILT.TOTAL RESIDUE PARLOSS ON IGNI.
NITRATES, TOTAL FILT. REAC.
NITRITE, FILT. REACT. NICKEL, UNFILT. TOTAL STRONTIUM, UNFILT. TOTAL CHROMIUM, UNFILT. TOTAL MERCURY, UNFILT TOTAL RESIDUE, PARTICULATE 1,1,1-TRICHLOROETHANE VOLATILES ORGANIC COMPOUNDS COBALT, UNFILT. TOTAL COPPER, UNFILT TOTAL LEAD, UNFILT. TOTAL ZINC, UNITIL T. TOTAL PESTICIDES, HERBICIDES, PCBS PHENOLICS (4AAP) XICHLO CHLOROPORM XIIIIT 1,1,1-TRICHLOR CONVENTIONALS DOC NNHTPR NNTKUR PH PHUT RSP RSP RSP NNOTPR PIBHCO PIDMDT P3245T P3SILV CONTAM. CCNFUR NANI HGUT NIUT SRUT ZNUT CRUT MOUT ALLST CDUT P324D

PLANT NAME: Brantford PLANT TYPE: Secondary

SAMPLING TYPE: Raw Studge SAMPLE FORM: Dry Weight

GLOBAL, % PREV. 38.2 67.7 80.0 20.6 79.4 0000 0000 0000 0000 0000 29 29 77 GLOBAL SPREAD FACTOR 12.16 4.12 PLANT SPREAD FACTOR 3.22 88888888 88 GLOBAL GEO. MEAN 2919.80 3823.30 3563.50 5911.32 25.44 36897.85 6.03 9.74 9.29 301.43 606.31 3.04 3.04 231.70 905.39 7.20 20347.70 32783.51 20803.05 59.17 1468441.64 5329.18 41.81 40883.37 5.46 17546.91 41151.43 28837.48 275400.90 3563.10 3888.10 7257.60 GEO. MEAN 9.45 14.59 460.49 1015.12 067 96.49 212.04 1.37 192.43 19.10 15.40 9.10 7.70 10.00 2.60 8.40 GLOBAL. S. FREQ. DET. 89.6 89.6 100.0 100.0 100.0 H8.9 100.0 93.0 73.2 73.2 93.0 100.0 98.0 98.0 98.0 20 20 11.8 0.00 GLOBAL DET 00-5 2268138682828 0 2 8 8 8 9 8 G C 9 \* SAMPLES 45 448 448 449 51 51 51 5 2 2 2 5 22222222 PLANT % FREQ. DET. 0.000 50.0 DET. SAMPLES UNITSQA/QC PLANT PLANT CODE MIN. CONC. MAX. BET. > DL CONC. 239.80 2.04 219.13 1470.41 530102.00 5484.70 6530.60 20648.10 5.61 10.71 17.35 482.14 1348.98 3.50 20.40 17.90 12.80 21.70 21.70 6.90 6.90 42.82 47193.88 5.67 20153.06 43200.00 29700.00 826530.61 6.25 3217.59 40.82 35416.67 5.25 15277.78 39200.00 5484.70 5484.70 6530.60 20648.10 8.33 12.27 439.81 763.89 6.25 83.33 187.50 0.93 168.98 3.50 00.11 00.44 00.44 00.14 00.17 00.10 00.10 00.10 2222 E KE 222222 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS BETA-BIECHEXCHLORCYCLIEX GAMMA-BIECHEXCHLORCYCLHEX HEPTACHLORODIBENZODIOXIN OCTACHI, ORODIBENZODIOXIN CHEMICAL OXYGEN DEMAND AMMONIUM, TOTAL, FILT. RFAC. MOI YBINEMUM, UNITELT TOTAL NITROGEN FOT KUEL UNF. TOT NITRATES, TOTAL FILT REAC. PHOSIMIORUS, UNFILT. TOTAL. COBALTUNFILT.TOTAL CHROMIUM,UNFILT.TOTAL COPYER,UNFILT.TOTAL RESIDUE, TOT LOSS ON IGNI. SHADNUMUNPILITOTAL STRONTIUM, UNFILITOTAL ZINC, UNFILITIOTAL ALUMINUM, UNFILT. FOTAL. OXYCHLORDANE PCB, TOTAL HEXACHLOROBENZENE ALDRIN CADMIUM, UNFILLTOTAL MERCHAY, UNFILT TOTAL CONTAM: CONTAMINANT NAME INANT ARSENIC, UNFILT. TOTAL. NICKEL, UNITL' TOTAL. SH.VER.UNFILT.TOTAL LEAD UNITE TOTAL GAMMA-CHI.ORDANE ALPHA-CHLORDANE PESTICIDES, HERBICIDES, PCBS (-LOCKH+(CONCN)) RESIDATE, TOTAL NAPITITALIENE PIENANTIRENE ANTHRACENE DIOXINS AND FURANS M-CRFSOL. CONVENTIONALS PMMCRE PNANTH PNNAPH PNPHEN NNITTER NNOTFR NNTKUR PHI PPRIT RST METALS PIBHCB PIGHLA PICHLA PICHLG PICHLG PINCHL XZHCB P97CDD AGUT ASUT COUT COUT COUT COUT COUT MOUT NRCT PBUT SEUT SRUT

PLANT NAME: Brantford PLANT TYPE: Secondary

PLANT NAME: Brantford PLANT TYPE: Secondary

SAMPLING TYPE: Treated Studge SAMPLE FORM: Dry Weight

CONTAM. INANT	CONTAM: CONTAMINANT NAME.	UNITSQA	UNITSQA/QC PLANT CODE MIN. CONG.	PLANT C. MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL. % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
CONVENTIONALS	TONALS														
COD NNITTER NNOTTER NNTKUR PH PPUT PRUT RST RST RSTO HSTLOI	CHEMICAL, OXYGEN DEMAND AMMONIUM, TOTAL, FIJ. T. REAC. NITRA FIS., TOTAL, FIJ. T. REAC. NOTROGEN-TOT-KUEL, UNE TOT (LOCCH-CONCN) PHOSPINGUS, UNFILT TOTAL. RESIDUE, TOTAL. RESIDUE, TOTAL. RESIDUE, TOTALOSS ON IGNI.	HEAR O	967058.82 17552.94 32.94 5017.65 7.48 25176.47 33900.00 2990.00	1427728.61 23569.32 59.00 5752.12 7.68 29793.51 42500.00 24800.00		~ ~ ~ ~ ~ ~ ~ ~	100.0 100.0 100.0 100.0 100.0 100.0 50.0	888444884	822442834	100.0 88.5 100.0 100.0 100.0 100.0 100.0	2039.88 2039.88 44.08 53692.40 7.38 27387.87 37957.21 22766.64 37.72	508097.94 17658.28 42.68 38494.12 71.17 76638.67 80434.04 43379.33	125 125 125 125 125 125 125 125 125 125	4.65 2.92 2.29 1.77 1.09 6.91 3.19 3.14	100.0 100.0 100.0 100.0 100.0 100.0 100.0
METALS															
AGUT ALUT ASUT COUT COUT COUT COUT HIGHT MOUT NILT	SILVER, UNFILTTOTAL ARSISHIC, UNFILTTOTAL ARSISHIC, UNFILTTOTAL CADMIUM, UNFILTTOTAL CORALT, UNFILTTOTAL COPPER, UNFILTTOTAL COPPER, UNFILTTOTAL MERCURY, UNFILTTOTAL MOLY BIRSHUM, UNFILTTOTAL MOLY BIRSHUM, UNFILTTOTAL MICKEL, UNFILTTOTAL LIKAD, UNFILTTOTAL LIKAD, UNFILTTOTAL LIKAD, UNFILTTOTAL	100 100 100 100 100 100 100 100 100 100	35.29 6712.09 9.73 18.58 10.24 800.00 1351.03 1.77 7.76 145.18	\$1.62 6823.53 19.05 19.06 38.35 849.85 1505.88 17.11 164.71		~~~~~~~~~	0.001	4 8 8 8 8 8 8 8 8 8 8 8 8 8	4 8 8 4 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	100.0 100.0 98.0 91.1 100.0 100.0 100.0 100.0 88.0 98.0	42.68 6767.58 10.15 18.82 21.66 834.55 1426.36 233 11.53 11.53	37.78 10715.94 5.40 10.47 9.14 333.06 732.26 732.26 732.26 14.06 172.95	131 108 108 108 108 119 119 119	2.33 2.06 2.38 2.38 2.28 2.28 2.28 2.28 2.28	97.1 97.1 97.1 96.3 85.7 100.0 100.0 97.1 97.1
SRUT ZNUT ZNUT	RUT SELENUM UNFILTTOTAL, mg/k, RUT STRONTIUM, UNFILTTOTAL, mg/k, RUT ZINC, UNFILTTOTAL, mg/k, MASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	mg/kg 0 mg/kg 0 mg/kg 0	258.82	2.95 270.80 2344.54	000	~ ~ ~	100.0	\$ 50 80	8 0 0 0	100.0	276 264 74 2152.65	240.93 988.90	1.10	2.54	100.0
PNIN IEN PMMCRE PMNITB PNNAPH	PHENANTIRENE M-CRESOL NTROBENZENE NAPITIALANE	ug/kg 1 ug/kg 1 ug/kg 1	18705.00 106194.70 6398.20 10569.30	28235.30 106194.70 6398.20 10569.30	ભ ભ ભ ભ	2	100.0 50.0 50.0	2 2 2 3	5 5 5 6 9	34.0 30.0 12.0	22981.30 19359.80 3880.00 4986.80	2220.50 5281.80 1405.80 1545.60	1.34 11.10 2.03 2.89	4.27 8.20 3.46 3.77	26.5 35.3 8.8 14.7
DIOXINS	DIOXINS AND FURANS														
P97CDD P98CDD	97CDD IEPTACH ORODIBENZODIOXIN 98CDD CCTACH, ORODIBENZODIOXIN PESTICIDES, HERBICIDES, PCBS	ug/kg 1 ug/kg 1	1.80 35.40	35.40	~ ~	~~	50.0 50.0	\$ \$	98	53.1	11.10	5.00	5.14	3.21	23.5
PHCBT 19240 19245T 1938LV X2HCB	PCB, TOTAL. 24 DICHLOROPHENOXYACHTIC 24.5-TRICLORPHENOXYACHTC SH VEX HEXACHLOROBENZENE	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	82.60 91.80 767.00 354.00	101.20 1710.90 767.00 354.00 9.40	~~~~	22	100.0 100.0 100.0 50.0 50.0	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	22 22 21 21 21 21	54.0 32.0 36.0 42.0	91.40 396.30 95.10 64.60 5.20	114.10 75.00 84.40 92.70 7.00	1.15 7.91 19.14 11.08 2.30	2.29 2.94 2.94 2.94	88 4 4 1 2 3 3 3 4 4 1 2 3 3 3 4 4 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3

PLANT NAME : Brantford PLANT TYPE : Secondary	CONTAM: CONTAMINANT NAME UNITSQA/QC PLANT	VOIATILES ORGANIC COMPOUNDS           PREBNZ         ETHYLBENZENE (C8H10)         UB/Kg         1 1445.40         2         1         50.0           BAMFXY         M., AND P.XYI ENIS         Mg/kg         1 5309.70         2         1 50.0	O.XYLENE (C8H10) LEAGE 1 1592.90 1592.90 2
SAM	GLOBAL GLOBAL  # # # SAMPLES DET	50 14	
SAMPLING TYPE : Treated Sludge SAMPLE FORM : Dry Weight	T. GLOBAL. % FREQ. DET.	28.0	0.47
: Treated Slu : Dry Weight	PLANT GLO GEO. GF MEAN ME	824.70 606 1580.70 816	
qte	GEO. SPREAD MEAN FACTOR	606.50 2.21 616.00 5.55	
	GLOBAL SPREAD FACTOR	8.59 11.7	20.1
	GLOBAL % PREV.	32.4	190

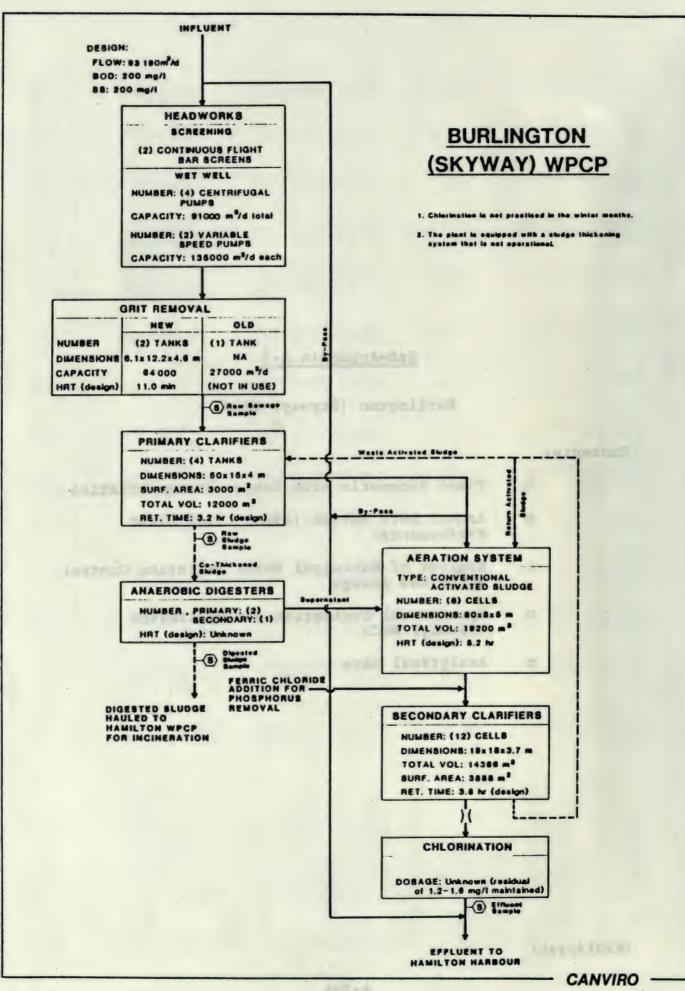
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## Sub-Appendix A-3

# Burlington (Skyway) WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- O Annual Data Review (1981 1986 Plant Performance)
- Sources of Municipal Water Pollution Control Plant Raw Sewage
- O Operational Evaluation for Burlington (Skyway) WPCP
- o Analytical Data



SKYMAY MPCP Conventional Activated Sludge Phosphorus Removal - Continuous Capacity - 93.193 18(3)m3/day

PARAMETER	1981	1982	1983	1984	1 1985	HEAN ANNUAL AVERAGE
Avg. Daily Flow (1888 #3/day)	73.10	77.81	86.68	87.66	67.08	78.27
BOD5 - Influent (mg/L)	218.10	157.28	181.88	178.83	159.67	177.36
BODS - Effluent (mg/L) Annual BODS Significantly Different from Mean	7.28	8.88	7.78	9.13	9.28	8.26
Annual Average BOD5?	I.D.	I.D.	1.0.	I.D.	I.D.	
TSS - Influent (mg/L)	215.88	138.68	219.00	220.92	185.58	195.98
TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean	18.18	8.40	6.37	7.25	7.46	7.88
Annual Average TSS?	I.D.	I.D.	1.D.	1.0.	1.0.	<u> </u>
Total P - Influent (mg/L)	8.38	6.26	6.98	7.76	6.50	7.14
Total P - Effluent (mg/L) Annual TP Significantly Different from Mean	1.29 1	9.93	8.54	B.72	8.74	: 8.88 :
Annual Average TP? TP in Compliance?	I.D.	I.D.	I.D.	I.D.	I.D.	Y

I.D. - Insufficient Data

## SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

## GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE  DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	SKYWAY WPCP 110000070 CONVENTIONAL ACTIVATED SLUDGE PHOSPHORUS REMOVAL CONTINUOUS 93.193 70.631 120100	
% OF TOTAL FLOW ATTRIBUTED TO:	1 100 1 100 1 100 100	
INDUSTRIAL SOURCES (%)	17	
COMMERCIAL SOURCES (%) (Population x 0.0757)		
RESIDENTIAL SOURCES (%) (Population x 0.175)	30	
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from industrial, commercial and residential sources)	N 40	
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	335 248 44	
DESCRIPTION OF THE TOP 5 INDUSTRIES (BASED ON WATER USE DATA) DESCRIPTION	S DISCHARGED TO THE WPCP  SIC # OF  COMPANIES	
MEAT CHEMICALS/CHEMICAL PREPARATION	2011-2013 4 2899-2899 4	

MISC. METALS FABRICATED PRODUCTS

ELECTRICAL AND ELECTRONIC COMP

STONE, CLAY AND MINERAL PRODUCTS

3490-3499

3200-3299

3612-3690 17

11

## BURLINSTON SKYWAY WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: January 23, 1987 SAMPLING SEASON: Winter (Cold Weather)
DESIGN AVG FLOW: 93,190 m3/d

2 1				PRE-SAN	IPLING PERI	OD		
11		DAY 1 :						
=								
8 9	DAN DENADE FLOW	70 141	71 010 1	77 570 1	71 701 1	74 044 1	71 007 1	70 (00 )
2 0 0 0	RAW SEWAGE FLOW	72,444			/1,384 ;		71,007 :	
2 2 2 2 2 8 2 8	% of Design Flow	77.742					76.20%	75,85%;
11	r or nesidii Lion	1/1/7/1	17:4161	/0.71%1	10.0021	1714041	10.2021	13.03%1
11-								
11	Influent BOD (ag/L) :	1	1	126.0 1	1	1	1	1
2 B 2 B	Primary BOD (mg/L) :	1	2 2	80.0 ;	1	2	8 8	1
2 B	Secondary BOD (mg/L) :	1	2 1	36.0 :	8 9	1	1 1	1
2 9 3 8	Z PRIMARY REMOVAL	1	3 8	36.5 1	8	3 2	9 8	2
1 1	% SECONDARY REMOVAL :	1	1	71.4	1	3	2 1	8
11-								
11	Influent SS (ag/L)	i		173.0 :	i		1	1
11	Primary SS (mg/L)	i	i	108.0 :	i	2	i	1
2 9	Secondary SS (mg/L) : 2 PRIMARY REMOVAL :	i	i	46.0 1	i	i	i	i
11	Z SECONDARY REMOVAL	1	1	73.4	i	1	i i	1 t
!!-	A DEGUNDANT REMOVAL	1	!	/3.7 :	!.	!.	!_	!
11	Influent NH4 (mg/L)		:	1			:	1
11	Primary NH4 (mg/L) :		1	2	1	;		1
0 1	Secondary NH4 (mg/L) :		1	2 1	1	1	1	
1 1	Z PRIMARY REMOVAL	1	1 1	1	1	1 3	2 2	3 9
2 0	I SECONDARY REMOVAL :	2 5	1	5 8	1	1	1	3 8
11-								
1 1	Influent TKN (mg/L) :	1	1 2	B 2	1	1	1	3 8
1 1	Primary TKN (mg/L)	1	1	8 8	1	1	1 2	2
11	Secondary TKN (mg/L)	1	1	1	1	1	1	1
11	Z PRIMARY REMOVAL :	8	1	3 3	1	1	3 8	8 2
11	% SECONDARY REMOVAL		1	1	1	2 8	1 2	1
11-	7-(1 4 7-4-1 5 ( 41 1							
11	Influent Total P (ag/L) :	9	i	4.00	i	1	1	1
11	Primary Total P (mg/L) ; Secondary Total P (mg/L) ;	i	i	1.70	i	i		;
11	I PRIMARY REMOVAL	1	i	1.70 1	1	i	i	1
11	Z SECONDARY REMOVAL	1	i	57.5	i	i	1	
11	- SCOUNDANT REMOVAL	•	•	ا له ال	i	i	i	i

## BURLINGTON SKYWAY WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING:

January 23,-1987 Winter (Cold Weather)

SAMPLING SEASON: DESIGN AVG FLOW:

93,190 m3/d

1		PRE-SAMPLING PERIOD							
==	PARAMETER :	DAY 8 ;	DAY 9 ;		DAY 11 '				
	RAW SEWAGE FLOW	73,372	76,792	81,729	84,960	79,049	72,509	74,287	
	% of Design Flow	78.73%	82.40%	87.702	91.172	84.832	77.811	79.72%	
 	Influent BOD (mg/L)			82.0		 	 		
i	Primary BOD (mg/L)	1	1	53.0 1	1	1	1		
1	Secondary BOD (mg/L) : 2 PRIMARY REMOVAL :	1		13.0 : 35.4 :	i	;			
1	2 SECONDARY REMOVAL	i	i	84.1 :	i	;	i		
!	Influent SS (ag/L)			188.0 :					
1	Primary SS (mg/L)	1	;	62.0 :	- !	1			
	Secondary SS (ag/L)	1	:	35.0 :	i	:			
1	Z PRIMARY REMOVAL :	1	i	67.0 : 81.4 :	;	i	i		
	Influent NH4 (mg/L) Primary NH4 (mg/L)						; ;		
1	Secondary NH4 (mg/L)		,		1	1			
1	I PRIMARY REMOVAL	1							
1	% SECONDARY REMOVAL								
;	Influent TKN (mg/L)	1	1		}	}			
1	Primary TKN (mg/L)				;	;	c mi m		
1	Secondary TKN (mg/L) ; 2 PRIMARY REMOVAL ;		i	i	i	i	i		
	Z SECONDARY REMOVAL					1			
1-									
1	Influent Total P (mg/L)	1	1	3.20 :	;	1	1		
1	Primary Total P (mg/L)	;	1	0.13 !	:	1	1		
:	Secondary Total P (mg/L)	1		1		;	i		
	Z PRIMARY REMOVAL			95.9 :					

## BURLINGTON SKYWAY WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: January 23, 1987 SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 93,190 m3/d

		SAMPLING PERIOD								
	PARAMETER :	DAY 15	DAY 16 !		DAY 18 :					
=		1	1	1	1	1	1			
	RAW SEWAGE FLOW	74,523 1	68,795	69,857	71,258		68,712 ;	64,558		
	I of Design Flow	79.972	73.82%	74.962	76.47%	74.95%		69.28		
-	Influent BOD (ag/L)		148.0							
	Primary BDD (mg/L)	1	103.0 :	2 2	3 9	8 8	8			
	Secondary BOD (mg/L)	1	16.0 :		1 1	1 1	2 8			
	Z PRIMARY REMOVAL	1 1	30.4 ;	1	2	2	8			
	I SECONDARY REMOVAL	1	89.2 :		1	1	2 3			
-	Influent SS (mg/L)		175.0			;				
	Primary SS (mg/L)	1 1	78.0 :	1	8	1	1			
	Secondary SS (eg/L)	1 1	11.0 :	9 9	1	1	1			
	I PRIMARY REMOVAL	1 1	55.4 1	1	3	1	1			
	% SECONDARY REMOVAL		93.7 1		i i	1	1			
	A SECONDARY RESIDENCE						;			
	Influent NH4 (mg/L)		1	1	1	1	3 8			
	Primary NH4 (mg/L)	:	2 3	3 1	:	3 3	3 9			
	Secondary NH4 (mg/L)	1	8	8	3 9	9 8	2 6			
	I PRIMARY REMOVAL	1	!	3	1 2	1 1	2 8			
	% SECONDARY REMOVAL		1	1	1	1	1			
	Influent TKN (mg/L)									
	Primary TKN (mg/L)	:		:	:					
	Secondary TKN (mg/L)		:		:					
	7 PRIMARY REMOVAL				1	2				
	I SECONDARY REMOVAL			!		2	!			
	Influent Total P (eg/L)		3.80 :	2 5	2	1	1			
	Primary Total P (mg/L)	2 3	1	!	1	3 2	1			
	Secondary Total P (mg/L)	1 1	0.93 :	1 2	1	2 5	1 1			
	% PRIMARY REMOVAL	1 1	1	3	- 1	3	1			
	Z SECONDARY REMOVAL		75.5 :	1		2	1			

## BURLINGTON (SKYWAY) WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: June 26, 1987
SAMPLING SEASON: Summer (Warm Weather)

PROTOCOL AND THE PERSON

DESIGN AVE FLOW: 93,190 m3/d

1				1 10 2110 1 2110									
1	PARAMETER	DAY 1 f	DAY 2 1	DAY 3 1	DAY 4 1	DAY 5 :	DAY 6 (	DAY 7					
3	RAW SEWAGE FLOW	66,896	59,001	59,996	61,226	63,898	55,968	57,703					
1	% of Design Flow	71.78%	63.312	64.382	65.70%	68.57%	60.0621	61.922					
	Influent BOD (mg/L)	158.0		143.0	184.0								
1	Primary BOD (mg/L)	103.0 :	1	95.0 :	162.0 ;	4							
1	Secondary BOD (mg/L)	2.0 1	3 8	5.5 1	4.7 1	1	1						
1	I PRIMARY REMOVAL	34.8 ;	- 1	33.6 1	12.0 :	- 1	- 1						
1	% SECONDARY REMOVAL	98.7	:	96.2 !	97.4 :		1						
	Influent SS (mg/L)	1		190.0 1	!								
1	Primary SS (mg/L)	1	3 2	88.0 1	2 2	1	- 1						
1	Secondary SS (mg/L)	1	1	7.6 1	1	1	- 1						
	% PRIMARY REMOVAL	1	1	53.7 :	1	1	1						
-	% SECONDARY REMOVAL	; ;		96.0 :				111					
	Influent NH4 (mg/L)	16.8	1	12.3	14.0 1	1	1	119					
1	Primary NH4 (mg/L)	19.0 :	1	14.6 1	17.4 1	1	1						
1	Secondary NH4 (mg/L)	28.5	1	23.5 :	15.4	1	1						
1 1	Z PRIMARY REMOVAL	1 -13.1 1	1	-18.7 :	-24.3	1	1						
	% SECONDARY REMOVAL	-69.6		-91.1 :	-10.0 !								
	Influent TKN (mg/L)	25.5		13.0	13.0	1	1	T. C.					
	Primary TKN (mg/L)	29.4 :	i i	12.0 :	21.0 :	1	1						
	Secondary TKN (mg/L)	28.5	ì	10.0 :	18.4	1	2 1						
1 1	% PRIMARY REMOVAL	1 -15.3 1	3	7.7 1	-61.5 1	;	1						
	% SECONDARY REMOVAL	-11.8		23.1	-41.5	!	!						
9 8	Influent Total P (mg/L)	2.06	i	6.48	3.62 :	;							
1 1	Primary Total P (mg/L)	2.62 1	1	3.62 1	4.55	1	i						
	Secondary Total P (mg/L)	0.73 :	1	0.47	0.85 {	i	1						
11	% PRIMARY REMOVAL	1 -27.2 1	8	44.1 1	-25.7	1	i						
11	% SECONDARY REMOVAL	64.6	1	92.7 :	76.5 1		1						

## BURLINGTON (SKYWAY) WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: June 26, 1987 SAMPLING SEASON:

Summer (Warm Weather)

DESIGN AVE FLOW:

93,190 m3/d

				PRE-SA	MPLING PER	100		
	PARAMETER	DAY B	DAY 9	DAY 10 :	DAY 11 :	DAY 12	DAY 13	DAY 14
-				,		1	,	
	RAN SEWAGE FLOW	66,177	61,420	60,857	58,737	62,713	58,088	64,370
	% of Design Flow	71.012	65.91%	65.30%	63.031	67.302	62.332	69.07
-								
	Influent BOO (mg/L)		137.0		196.8 1	-	1	
	Primary BOD (mg/L)	96.0	78.0		66.2 1	1	å	
	Secondary BOD (eg/L)	6.0 1	6.3		11.1 3	1	9	
	I PRIMARY REMOVAL	22.6 1	43.1		66.4	-	1	
	% SECONDARY REMOVAL	95.2	95.4	98.3	94.4		!	
	Influent SS (mg/L)	178.0	150.0	150.0	208.0	1	1	
	Primary SS (mg/L)	142.0 1	116.0	220.0 1	336.0 :	1	1	
	Secondary SS (mg/L)	2 2	10.4	8 8	1 2	8 8	1 2	
	I PRIMARY REMOVAL	1	22.7	1	1	1	3 1	
	% SECONDARY REMOVAL	100.0 :	93.1	100.0 :	100.0 ;	1	2	
-								
	Influent NH4 (mg/L)	15.2 1	15.7		15.1 :	1	ì	
	Primary NH4 (mg/L)	20.7	20.7		19.6	1	1 1	
	Secondary NH4 (ag/L)		19.9			1	3	
	I PRIMARY REMOVAL	1 100 1	-31.8 3		-29.8 :	1	1	
	% SECONDARY REMOVAL	100.0	-26.8	-41.1	-41.1 :			
	Influent TKN (mg/L)	15.61	11.6	18.0 :	18.5	1	2 2	
	Primary TKN (mg/L)	20.7 1	23.5	19.0 :	19.2 :	1 1	2 2	
	Secondary TKN (mg/L)	26.7 1	17.2 :		21.1	1 1	3 2	
	I PRIMARY REMOVAL	-32.7	-102.6		-3.8 :	2 8	1 1	
	Z SECONDARY REMOVAL	-71.2	-48.3	-17.8 :	-14.1 :	1	1	
	Influent Total P (mg/L)	7.00 1			6.60		;	
	Primary Total P (mg/L)		4.70 :	4,44 1	4.81 :	1	1 1	
	Secondary Total P (mg/L)	1.19 ;	1.90 :	0.90 1	0.79 :	3 1	3 2	
	% PRIMARY REMOVAL	31.7 1	38.2 :	-37.9 1	27.1 :	1	1	
	% SECONDARY REMOVAL	83.0 :	75.0 :	72.0 1	88.0 :	1	1	

## BURLINGTON (SKYWAY) WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: June 26, 1987
SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 93,190 m3/d

::								
11				SAMP	LING PERIO	0		
11	PARAMETER	DAY 15 :	DAY 16 :	DAY 17 ;	DAY 18	DAY 19 (	DAY 20	DAY 21
=:								
11		1	1	+	- 1	- 1		1
11	RAW SEWAGE FLOW	97,490 1	74,633 1	67,492 1	71,084 :	69,085 :		1
11		1	- !					1
::	% of Design Flow	104.617;	80.09%	72.4211	76.28%	74.13%		
11-								
11	Influent BOD (ag/L)	367.8 :	168.6	162.5 :	340.8 3			i
1 1	Primary BOD (mg/L)	100.2 :	181.4	77.1 1	93.2			- 111
11	Secondary BOD (mg/L)	7.4 :	· · ·	12.6 :	14.6			i
11	% PRIMARY REMOVAL	72.8 1	-7.6	52.6 !				1717
11-	% SECONDARY REMOVAL	98.0 :		92.2 :	95.7 }		****	
11	Influent SS (mg/L)	186.0	196.0 :	35.2 :	218.0	i		1
1 1	Primary SS (mg/L)	144.0 1	120.0 :	15.2 :				1
11	Secondary SS (ag/L)	20.4 1	5.2 1	22.1 1	21.8 :	;		1
3 3 3 3 3 3	Z PRIMARY REMOVAL	22.6 1	38.8 1	56.8 1	53.2 1	:		1
11-	% SECONDARY REMOVAL	89.0 1	97.3 :	37.2 !	90.0			1
i i -	Influent NH4 (mg/L)	13.4	; !	14.0 :	13.4	i		
11	Primary NH4 (mg/L)	17.4 1		20.7 1				
11	Secondary NH4 (mg/L)	16.0 1		20.4 :	19.6	1		
11	Z PRIMARY REMOVAL	-29.9 :	7-3-	-47.9 ;				
11	% SECONDARY REMOVAL	-19.1		-45.7	-46.3	1		1
- 	Influent TKN (mg/L)	18.9		34.0 :	16.4			
1 1	Primary TKN (mg/L)	12.0 1	1	28.0 ;				1
11	Secondary TKN (mg/L)	9.5 1	1	23.0 :	15.6			1
11	2 PRIMARY REMOVAL	36.6		17.6 :	-11.6			;
11	% SECONDARY REMOVAL	49.8 1		32.4 1	4.9			1
11-								
11	Influent Total P (mg/L)	3.80 1	8.40 1	6.60 :	3.42 1	1		1
1 1	Primary Total P (mg/L)	3.71 1	99.60 1	4.81 1	4.64	1		1
5 B 6 B	Secondary Total P (mg/L)	0.46 1	1.00 ;	0.99 :	2.60 1	;		2 2
11	% PRIMARY REMOVAL		-1085.7 :	27.1 1	-35.7 :	1		1
11	% SECONDARY REMOVAL	87.9 1	88.1 1	85.0 :	24.0 1	1		1

PLANT NAME: Burlington (Skyway) PLANT TYPE: Secondary

SAMPLING TYPE : Raw Sewage SAMPLE FORM: Wet Weight

GLOBAL

GLOBAL

GLOBAL

PLANT

PLANT

UNITS

CONTAM. CONTAMINANT NAME

LNAN

GLOBAL % PREV.

PLANT NAME: Burlington (Skyway) PLANT TYPE : Secondary

SAMPLING TYPE : Pinal Effluent

SAMPLING TYPE: Final Effluent SAMPLE FORM: Wet Weight

PLANT NAME: Burlington (Skyway) PLANT TYPE : Secondary

GLOBAL GLOBAL SPREAD % PREV. FACTOR 10.7 14.3 17.9 17.9 64.3 21.4 1.45 1.38 1.20 1.20 1.93 1.93 PLANT SPREAD FACTOR 128 GEOBAL GEO. MEAN GEO. MEAN GLOBAL % FREQ. DET. 22025 GLOBAL DET. 2 2 3 7 2 8 7 \* SAMPLES GLOBAL 2222222 PLANT % FREQ. DET. 0.010.00 PLANT # DET. PLANT PLANT PLANT
MIN. CONC. MAX. DET. #
> DL CONC. SAMPLES 222222 15.00 12.00 12.00 12.00 10.00 5.90 13.00 12.00 12.00 12.00 10.00 5.90 UNITS QC STD. FOR STD. REF. CODE SURFACE NYS-GUL ONT-MOE NYS-GUL NYS-STD NYS-GUL NYS-GUL \$0.00 \$0.00 \$0.00 0.20 0.70 WATER 222222 CONTAMINANT NAME BROMODICHLOROMETHANE CHLOROFORM
TETRACHLOROETHYLENE
TRICHLOROETHYLENE 1,1,1-TRICHLOROETHANE VOLATILES ORGANIC COMPOUNDS M. AND P-XYLENES CONTAM. INANT

XICHLO XITETR XITRIC XIBDCM

**B2MPXY** B20XYL 11

PLANT NAME: Burlington (Skyway)
PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight

GLOBAL % PREV. 94.4 97.1 97.1 97.1 93.3 93.9 93.9 93.9 58.8 79.4 47.1 67.7 82.3 80.0 80.0 82.9 82.9 82.9 93.9 93.9 93.9 90.0 90.0 90.0 GLOBAL SPREAD FACTOR 3.00 3.60 22238 PLANT SPREAD FACTOR 9.8 28 GLOBAL GEO. MEAN 892221.45 5911.32 25.44 36897.85 6.03 82.34 20347.70 32783.51 20803.05 116847.30 7312.80 3823.30 30.17 9835.74 6.13 9.74 9.29 301.43 606.31 2.23 59.17 173.99 3.04 231.70 88.70 48.90 8.90 7.20 4.60 5.00 7.30 8328.53 8328.53 30.26 41703.58 6.40 99.74 34237.85 34499.42 485720.90 7696.30 4389.30 29.32 11.17 27.19 13.41 271.91 976.63 2.88 32.92 170.13 437.20 1372.48 GEO. MEAN GLOBAL & FREQ. DET. 97.9 89.6 100.0 100.0 100.0 98.0 93.0 93.0 93.0 93.0 98.0 98.0 98.0 98.0 78.4 41.2 74.5 54.9 39.2 17.7 43.1 43.1 50.0 H2.3 GLOBAL. DET 5 12 9 52 SAMPLES GLOBAL 2 2 2 200 45 48 48 49 42 51 51 51 PLANT S FREQ. 0.000 \$0.0 \$0.0 00.0 DET SAMPLES UNITSQA/QC PLANT PLANT CODE MIN. CONC. MAX. DET. > DL CONC. 1299135.45 8328.53 30.26 4327.67 6.40 213.26 37317.78 34700.00 31.70 12.697 12.97 32.07 13.41 32.07 1055.33 3.21 43.73 187.32 3.75 504.32 778098.00 13702.60 6608.10 282.40 187.30 11.50 72.00 31.70 11.50 5.80 98.00 303207.00 13702.60 6608.10 8328.53 30.26 40.233.24 6.40 46.65 31412.10 34300.00 27.11 11078.72 9.62 23.05 13.41 230.55 903.79 2.59 24.78 154.52 2.04 379.01 1095.10 172.00 49.60 11.50 72.00 31.70 11.50 5.80 0000000000 333 5 % S 2222222 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS 24,5 TRICLORPHENOXYACTEC
24 DICHLOROPHENOXYACT-HC
CAMMAN BHICHEXCHLORCYCLHEX
DH-LDRIN
ENDOSLIJFAN I OCTACH ORODIBENZODIOXIN HEPTACH ORODIBENZODIOXIN AMMONIUM, TOTAL FILL REAC. CHEMICAL OXYGEN DEMAND NITRATES, TOTAL, FILT. REAC. PHENOLICS (4AAP) PLOSHIORUS UNPILETOTAL. RESIDUE, TOTAL. SB.VER,UNFB.T.TOTAL.
ALUMUM. UNFB.T.TOTAL.
ARSENICUNFB.T.TOTAL.
CADMIUM. UNFB.T.TOTAL.
(COBALT,UNFB.T.TOTAL. RESIDATE TOT LOSS ON IGNI. STRONTIUM, UNFILT TOTAL. ZINC, UNFILT TOTAL. CHROMIUM, UNFILT TOTAL. COMPER, UNFILL TOTAL.
MERCURY, UNFILL TOTAL. SELENIUM, UNFILT TOTAL CONTAMINANT NAME NICKEL, UNFILT TOTAL HEPTACHLOREPOXIDE HAD UNTIL TOTAL PESTICIDES, HERBICIDES, PCBS (-I OCKLI-(CONCN)) M-CRESOL. PHENOL. NAPITITALENE PCB, TOTAL. DIOXINS AND FURANS PP DDF CONVENTIONALS CONTAM. P32AST P32AD P1BHCG P1DH-L P1H-RD P1H-RP-P1PP-DE P3SH-V NNICTR NNOTER NNTKUR METALS PMMCRE P9RCDD NHIKIMA PNNAPH PH PHYTI PHYTI RST RSTLOI PIPCBT AGUT ALUT ALUT CONT CONT COUNT COUNT HIGHT BEUT SEUT

PLANT NA

SAMPLING TYPE: Treated Sludge SAMPLE FORM: Dry Weight

	1						
GLOBAL	17-1	100.0 100.0 100.0 100.0 100.0 100.0	100.0	100.0 97.1 85.7 100.0 100.0 90.0 97.1 97.1 100.0	35.3 8.8 14.7 8.8	25.5	65.7 73.5 64.2 86.7 17.7 44.1
GLOBAL SPREAD FACTOR		292 292 229 229 1.77 1.09 3.14 6.91 3.23	233	2.82 2.98 3.98 3.59 2.73 2.26 2.98 2.98 2.98 2.98 2.59	8.20 4.26 3.77 3.44	3.21	4.58 2.72 3.13 3.13 5.81 2.67 2.52 2.94
PLANT SPREAD FACTOR	1/1	3.63 0.00 0.00 0.00 1.23 4.98 1.10 1.10	1:96	1.84 2.65 1.06 0.00 1.89 1.18 1.21 1.21 1.81 1.34	2.03 1.59 1.76 1.69	3.50	1.07 1.74 3.72 8.83 9.33 5.57
GLOBAL GEO. MEAN	34	17658.28 17658.28 38494.12 7.17 43.05 76638.67 88434.04	37.78	10715.94 5.40 10.47 9.14 333.06 732.24 32.4 6.41 72.95 196.62 2.67 2.40.93	5281.80 1338.90 1545.60 2124.30	5.00	114.10 11.10 11.10 14.00 530 530 4.90
PLANT GEO. MEAN	3.0	8132.18 27.30 46520.77 7.83 92.39 33544.62 33472.14	30.31	11188.61 11.83 30.30 11.83 311.02 985.05 4.77 7.26 37.72 221.21 2.75 452.60	8155.00 4588.40 4917.60 7183.00	125.30	197.30 9.70 317.60 307.90 16.00 11.10
GLOBAL % FREQ. DET.	hp	100.0 100.0 100.0 100.0 100.0 100.0 100.0	100.0	100.0 98.0 91.1 82.1 100.0 93.3 93.3 98.0 98.0 98.0 100.0	30.0 8.0 12.0 6.0	83.1 20.4	88.0 88.0 88.0 22.0 22.0 36.0
GLOBAL # DET	0.12	8888444888	2	8 8 8 8 4 2 8 8 8 8 8 8 8 8 8 8 8 8 8 8	2400	70 10	2 8 1 3 4 3 5 1 8 8 1 3 5 1 8 8 1 8 8 1 8 8 1 8 8 1 8 8 1 8 8 1 8
GLOBAL. # SAMPLES		82222222 82222222	4	888888888888888888888888888888888888888	8 8 8 8	<del>2</del> <del>4</del> <del>2</del>	8 8 8 8 8 8
FLANT % FREQ. DET.	4	100.0 100.0 100.0 100.0 100.0 100.0	100.0	100.0 100.0 100.0 100.0 100.0 100.0 100.0	50.0 50.0 0.0 0.0	100.0 \$0.0	100.0 100.0 100.0 100.0 50.0 50.0
PLANT # DET.		nnnnn	74	000-00000000		1 2	~~~~
PLANT # SAMPLES		nnnnn	2		a a a a	7 7	<b>0000000</b>
PLANT MAX. DET. CONC.	114	8132.18 27.30 27.30 53795.38 7.83 287.36 34653.47 34800.00	48.85	17241.38 23.56 31.61 13.61 1347.41 43.10 344.83 5.75 689.66 1609.20	13433.90 6379.30 7327.60 10422.40	303.60	206.90 14.40 804.60 1436.80 77.60 37.40
PLANT MIN. CONC. > DL	122	8132.18 27.30 40229.89 7.83 29.70 32.471.26 30300.00	18.81	7260.73 5.94 2.904 18.81 224.42 627.06 4.60 4.93 14.191 1.32 2.97.03 11.88.12	13433.90 6379.30 7327.60 10422.40	51.70 72.60	188.10 6.60 125.40 66.00 77.60 37.40 718.40
UNITSQA/QC PLANT CODE MIN. CONC.	(3)	110 14 15 15 15 15 15 15 15 15 15 15 15 15 15	mg/kg 0		POUNDS  ug/kg 1  ug/kg 1  ug/kg 1	n 8,78 1	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
CONTAMINANT NAME	ONALS	CHEMICAL OXYGEN DEMAND AMMONIUM,TOTAL, FILT REAC. NITRACTES, TOTAL, FILT REAC. NITROGENTOT KIEL, UNP. TOT (1,004He(CONCN)) PHENOLICS (AAAP) PHENOLICS (AAAP) PHESIDIAE, TOTAL. RESIDUE, TOTAL.	SILVER,UNFILT.TOTAL	A LUMINUM LUMELL TOTAL ARSENICUMENT TOTAL CADMILIM, UNINT TOTAL CORAT TUMENT TOTAL COPERLUMENT TOTAL COPERLUMENT TOTAL COPERLUMENT TOTAL MCRCL RY UNINT TOTAL MCRCL RY UNINT TOTAL MCRCL RY UNINT TOTAL MCRCL LUMENT TOTAL MCRCL LUMENT TOTAL SEANUM RENT TOTAL SHEANUM UNINT TOTAL SHEANUM UNINT TOTAL SHEANUM UNINT TOTAL ZINC UNINT TOTAL	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS PARACRE M.CRESOL NH AN HJOORANTHENE ug/k NNAPH NAPHTHALENE ug/k NNPYR PYRENE DIOXINS AND FURANS	98CDD OCTACHLORODIBENZODIOXIN 97CDD HEPTACHLORODIBENZODIOXIN PESTICIDES,HERBICIDES,PCBS	K'B, TOTAL. PP DDI: 24.5TRICI.ORPHENOXYACETC 24.DICH.OROMIENOXYACETIC ALI DRIN MIREX SILVEX
CONTAM- INANT	CONVENTIONALS	COD NNITTPR NNOTTPR NNTKUR PH PHUT PRUT RST RST	METALS	ALLT COUT COUT COUT COUT HIGH MOUT NICT SEUT SEUT	BASE NEUT PMMCRE PNH AN PNNAPH PNPYR DIOXINS A	P9RCDD P97CDD	PIK'BT P1345T P334D P1ALDR PIALDR PIAIRX P35ILV

	PLANT TYPE : Secondary	VME: Bu	PLANT NAME: Burlington (Skyway) PLANT TYPE: Secondary	yway)					SAMPL	SAMPLING TYPE: Treated Sludge SAMPLE FORM: Dry Weight	E : Treate : Dry W	ed Sludge			
CONTAM-	CONTAM: CONTAMINANT NAME INANT	UNITSQA/	UNITSQA/QC PLANT CODEMIN.CONG. MA > DL	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL,	GLOBAL FFEQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.
OLATILE	VOLATILE ORGANIC COMPOUNDS														
BZMPXY	B 2MPXY M., AND P. XYLENES LIHEX HEXANOL.	ug/kg 1 ug/kg 2	3960.40 3960.40 143678.20 143678.20	3960.40	~ ~		\$0.0 \$0.0	20 00	15	30.0	1508.70	816.00	3.92	7.11	32.4

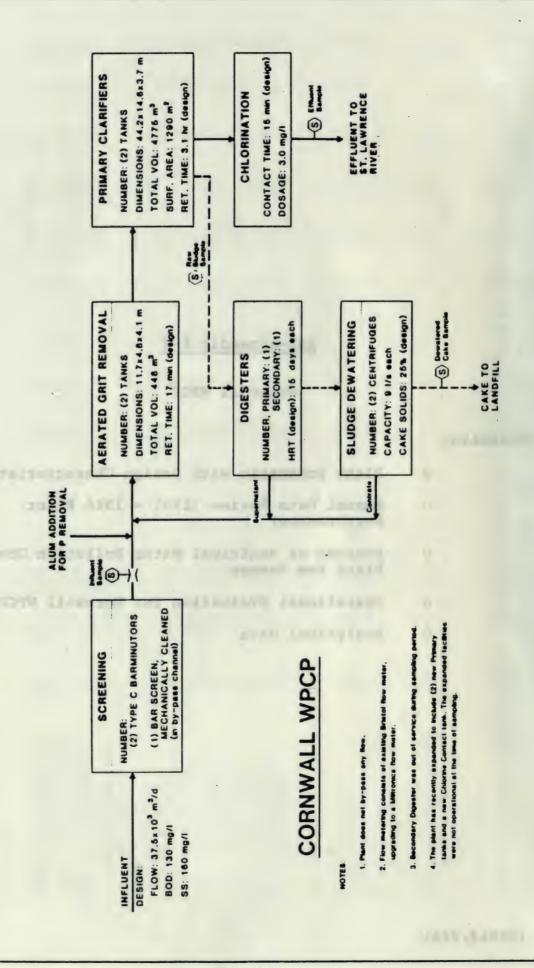
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## Sub-Appendix A-4

## Cornwall WPCP

## Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Cornwall WPCP
- o Analytical Data



CORNWALL WPCP Primary Phosphorus Removal - Continuous Capacity - 37.505 10(3)m3/day

PARAMETER	1981	1982	1983	1984	1985	5 YEAR AVERAGE B1-85
Avg. Daily Flow (1888 m3/day)	48.64	47.59	49.15	49.54	47.67	48.32
BOD5 - Influent (mg/L) BOD5 - Effluent (mg/L) Annual BOD5 Significantly Different from Mean Annual Average BOD5?	55.73 37.47	79.61 47.37	77.82 39.22	88.67 45.58	72.50 48.49	74.86
TSS - Influent (mg/L) TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean Annual Average TSS?	119.84 52.68	92.16 46.98 Y	92.92 28.48	110.25 23.69	1 185.83 24.45	184.28
Total P - Influent (mg/L) Total P - Effluent (mg/L) Annual TP Significantly Different from Mean Annual Average TP? TP in Compliance?	2.74 1.67	2.73 1.58	2.68 8.99	2.65 8.98	2.65 8.99	2.69

I.D. - Insufficient Data

## SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

## GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE  DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	CORNWALL WPCP 110000132 PRIMARY PHOSPHORUS REMOVAL CONTINUOUS 37.505 52.927 46800
% OF TOTAL FLOW ATTRIBUTED TO:	No. of Street, or other party of the last
INDUSTRIAL SOURCES (%)	10
COMMERCIAL SOURCES (%) (Population x 0.0757)	7
RESIDENTIAL SOURCES (%) (Population x 0.175)	15
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from	1 68
	M. St. Community of the last o
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	111 23 34

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	SIC # OF COMPA	ANIES
ORGANIC CHEMICAL & PESTICIDES TEXTILE PRODUCTS DAIRY	2869-2869 2271-2299 2021-2026	3 5 2
PLASTICS, RESIGNS, SYNTHETICS PRIMARY TEXTILES	2821-2824 2211-2269	1 3

OPERATIONAL EVALUATION FOR: CORNWALL WPCP

TREATMENT FACILITY: Primary
PERIOD ENDING: May 8, 1987
SAMPLING SEASON: Summer (Warm Weather)
DESIGN AV6 FLOW: 37,500 m3/d

5 3 2 3 6 8 2 3						PRE	-SAN	PLIN	6 PE	RIOD				
11	RANAUPTPR		4		v 2 .	DAY 3	,	BAV	4	DAY	E	DAY (		DAY 7
    ==	PARAMETER	DAY	1	UA	T Z i									# THT /
							,						1	
	DAN DENAGE ELEN		1		1		1			1	1		1 8	
	RAW SEWAGE FLOW	1	i		1		1			3	3		1	
1 1	W - / Bi 51		i		1		i i			1	1		1 2	
	I of Design Flow				i		1			3	1		)	
					i		i			i	i		i	
	T. (1 1 (1 )						;				;-			
	Influent BOD (mg/L)				i		1			1	1		i	
8	Primary BOD (mg/L)	1	i		. 1		i			i	i		î.	
	Secondary BOD (mg/L)				1		i			1	i		i	
3 3	Z PRIMARY REMOVAL				i		i			i	į		i	
P P	I SECONDARY REMOVAL				i		i			1	í		į,	
	T=(1)	;					;-				; -		;-	
	Influent SS (mg/L)	1			i		1			2	1		1 2	
	Primary SS (mg/L)	i			i		3			8	1		,	
	Secondary SS (mg/L)	1			i		i			1	i		i	
3 3	I PRIMARY REMOVAL	;			1		i				i		i	
2	Z SECONDARY REMOVAL						i				i		i	
1 1	* * * * * * * * * * * * * * * * * * * *						:				;-			
1 1	Influent NH4 (mg/L)						-			i	i		•	
3 3	Primary NH4 (mg/L)	i		i			í			i	i		i	
1 1	Secondary NH4 (mg/L)	i					1			1	1		1	
1 0	I PRIMARY REMOVAL	3					1			1	1		8	
1 1	I SECONDARY REMOVAL	8		t	1		1			1	8		1	
1 1	Influent TKN (mg/L)	1					2			8	1		1	
9 2	Primary TKN (mg/L)	1		1	1		2			2	1		8	
E 1	Secondary TKN (mg/L)	1		9	1		1			g 9	1		2 2	
2 B	I PRIMARY REMOVAL	1		1	1		9			2	3		3	
2 2	I SECONDARY REMOVAL	1 1		2	1		2 2			8	1		3	
1 1							;			}	{-			
9 9	Influent Total P (mg/L)	8		1	1		1			0	1		- 1	
5 D 7 B	Primary Total P (mg/L)	1		1	1		1			2	1		2 2	
11	Secondary Total P (mg/L)	8		1	1		1			2	1 1		8 2	
2 2 2 2 3	I PRIMARY REMOVAL	3 6		1			8			1	1		1	
11	% SECONDARY REMOVAL	2			1		3			3	1		8	

TREATMENT FACILITY: Primary

PERIOD ENDING: May 8, 1987

SAMPLING SEASON:

Summer (Warm Weather)

DESIGN AVE FLOW:

	SEL TOWN	med.	PRE-SA	MPLING PER	IOD
;; ;;	Ser : PARAMETER ! DAY				DAY 12   DAY 13   DAY 14
11	Erica III.	1 1	1	1	1
11	RAW SEWAGE FLOW	52,020 1	56,430 :	48,460 :	43,630   43,140   37,590
!!	% of Design Flow	138.72%	150.48%	129.232	116.35% 115.04% 100.24
       	Influent BDD (mg/L) ; Primary BOD (mg/L) ;	52.0			
	Secondary BOD (mg/L) : % PRIMARY REMOVAL :	49.0	;		
11	% SECONDARY REMOVAL	1 5.8%	:	1	1.
       	Influent SS (mg/L) ; Primary SS (mg/L) ;	133.0			
11	Secondary SS (mg/L) : % PRIMARY REMOVAL :	28.0	}	1	
;;	Z SECONDARY REMOVAL	78.921	;	1	
11	Influent NH4 (mg/L) ; Primary NH4 (mg/L) ; Secondary NH4 (mg/L) ;			1	
11	Z PRIMARY REMOVAL :	1 1		:	
	Influent TKN (mg/L)   Primary TKN (mg/L)	15.2			
11	Secondary TKN (mg/L) : Z PRIMARY REMOVAL :	14.8	!	1	
11	Z SECONDARY REMOVAL	2.67!			
	Influent Total P (mg/L) : Primary Total P (mg/L) :	1.80	1.80	2.30	The Huel G
11	Secondary Total P (mg/L) : % PRIMARY REMOVAL :	: 0.80 :	0.80 :	0.80 :	
11	% SECONDARY REMOVAL	55.621	55.6%	65.2%!	1

## CORNWALL WPCP

TREATMENT FACILITY: Primary

PERIOD ENDING: May 8, 1987
SAMPLING SEASON: Summer (Warm Weather)
DESIGN AV6 FLON: 37,500 m3/d

				SAMP	LING PERIO	D			
		DAY 15							
==		!				=======================================			
	RAW SEWASE FLOW	41,620	41,220	42,660	43,890 :	42,330	39,460	i	
		1	1	;	117.04	140.000	405 078		
	% of Design Flow	110.991	109.92%	113./6%;	117.04%;	112.884;		2 0	
	Influent BOD (mg/L)								-
	Primary BOD (mg/L)	:	3	å	!	1		8	
	Secondary BOD (mg/L)			1	1				
	7 PRIMARY REMOVAL 7 SECONDARY REMOVAL		3	· · ·	,	i		1	
	A SELUNDARY REMOVAL								_
	Influent SS (mg/L)	157.0							
	Primary SS (mg/L)			1	:	1		1	
	occombar y ou tagrer	29.0	3 8	. !	1	1		9	
	Z PRIMARY REMOVAL Z SECONDARY REMOVAL	81.5	3	;	i	j			
	4 SECUMUNKT KENUVHL							: :	_
	Influent NH4 (mg/L)			1	2 0				
	Primary NH4 (mg/L)	1	1	1	1	:		1	
	Secondary NH4 (mg/L)		1	1	;			2	
	Z PRIMARY REMOVAL Z SECONDARY REMOVAL			1	i	i		1	
-	% SECOMPHAI KENOVHE							; ;	_
	Influent TKN (mg/L)			1	4			i i	
	Primary TKN (mg/L)			1	3	1		1	
	Secondary TKN (mg/L)				1				
	Z PRIMARY REMOVAL Z SECONDARY REMOVAL	1		1	1			1	
-	a SECONDARY REMOTE								-
	Influent Total P (mg/L)	3.20	2.30	2.50	1	1	3.30	ł	
	Primary Total P (mg/L)	1	1	1	1	1		9	
	Secondary Total P (mg/L)	1.30	1.90	1.40	8		1.40		
	% PRIMARY REMOVAL % SECONDARY REMOVAL	59.4	17.4	44.0	1		57.6	1	

OPERATIONAL EVALUATION FOR: CORNWALL NPCP

TREATMENT FACILITY: Primary
PERIOD ENDING: April 3,

April 3, 1987

SAMPLING SEASON:

Winter (Cold Weather)

DESIGN AVE FLOW:

	· ·			PRE-SA	AMPLING PE	RIOD	
	PARAMETER	; DAY 1	1 DAY 2 1	DAY 3	DAY 4	1 DAY 5 1	DAY 6 : DAY 7
		!				!	
	RAW SEWASE FLOW		i i			;	
	7 of Design Flow	1			9 9 9	1 1	CALP HTS
	Influent BOD (mg/L)		-			{}- {	
1	Primary BOD (mg/L)	1	1		3	1	The state of
1	Secondary BOD (mg/L)	1	!				
1	Z PRIMARY REMOVAL Z SECONDARY REMOVAL				i	; ; ! !	•
;	a decompant renorme	-	-			\ { -	
1	Influent SS (mg/L)	1	1 1			1	1
9	Primary SS (mg/L)	å .			1	1	1
1	Secondary SS (ag/L) Z PRIMARY REMOVAL	1				1 1	
1	Z SECONDARY REMOVAL	1			1	i i	
;			-			-	
8	Influent NH4 (mg/L)	1	1 1	. 1	1	1	1
3	Primary NH4 (mg/L)	1			1	;	
1	Secondary NH4 (mg/L) Z PRIMARY REMOVAL	i	i i		1	i i	ā g
1	% SECONDARY REMOVAL						* *
<b> -</b> -			-			-	
2 2	Influent TKN (mg/L)		! !				1
* *	Primary TKN (mg/L) Secondary TKN (mg/L)	i	i i		i !	i i	9
3 3	I PRIMARY REMOVAL	1	;			1	
1	% SECONDARY REMOVAL	1	1 1			1	1
1-			-			-	
1	Influent Total P (mg/L) Primary Total P (mg/L)	1	1 1		1		i
3	Secondary Total P (mg/L)	1				1	
1	% PRIMARY REMOVAL				;	1	
	% SECONDARY REMOVAL	1	1 1		1	1 . 1	1

TREATMENT FACILITY: Primary

PERIOD ENDING:

April 3, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW:

								-	PRE-	SAI	1PLI	NE PI	ERIC	D							
PARAMETER	;																				14
	===	====	===	1			==:	====		==:	====		,	===	====		===	===:	===	====	====
RAN SEWAGE FLOW	\$ 8			3			8			8			1			1			1		
% of Design Flow				3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3			2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			2 2 2 3 3			3 8						1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) I PRIMARY REMOVAL SECONDARY REMOVAL							3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3									2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) 1 PRIMARY REMOVAL 2 SECONDARY REMOVAL	3 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3			3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3						3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3					
Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL				3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3			9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		nia mi mi mi mi		***		3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5					-
Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL																***************************************		,			
Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) Z PRIMARY REMOVAL	*						1			1 1 2 2			3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3			1			-		
	RAN SEWAGE FLOW  Z of Design Flow  Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL  Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL Z SECONDARY REMOVAL Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL Z SECONDARY REMOVAL Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL Influent Total P (mg/L) Secondary Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) Secondary Total P (mg/L)	RAN SEWAGE FLOW  Z of Design Flow  Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL  Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL  Influent NH4 (mg/L) Primary NH4 (mg/L) Z PRIMARY REMOVAL  Influent TKN (mg/L) Z PRIMARY REMOVAL  Influent TKN (mg/L) Z PRIMARY REMOVAL  Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) Z PRIMARY REMOVAL  Influent Total P (mg/L) Primary Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) Secondary Total P (mg/L)	RAW SENAGE FLOW  Z of Design Flow  Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL  Influent SS (mg/L) Primary SS (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL Z SECONDARY REMOVAL  Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL Z SECONDARY REMOVAL  Influent TKN (mg/L) Primary TKN (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL	RAN SEWAGE FLOW  Z of Design Flow  Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) Z PRIMARY REMOVAL Z SECOMDARY REMOVAL  Influent SS (mg/L) Primary SS (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL Z SECONDARY REMOVAL  Influent NH4 (mg/L) Primary NH4 (mg/L) Primary NH4 (mg/L) Z PRIMARY REMOVAL  Influent TKN (mg/L) Z PRIMARY REMOVAL  Influent TKN (mg/L) Z PRIMARY REMOVAL  Influent TKN (mg/L) Secondary TKN (mg/L) Z PRIMARY REMOVAL  Influent Total P (mg/L) Primary Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) Secondary Total P (mg/L)	RAN SEWAGE FLOW  I of Design Flow  Influent BOD (mg/L)  Primary BOD (mg/L)  Secondary BOD (mg/L)  I PRIMARY REMOVAL  INFLUENT SS (mg/L)  Primary SS (mg/L)  Primary SS (mg/L)  I PRIMARY REMOVAL  I SECONDARY REMOVAL  Influent NH4 (mg/L)  Primary NH4 (mg/L)  I PRIMARY REMOVAL  I SECONDARY REMOVAL  Influent TKN (mg/L)  I PRIMARY REMOVAL  I SECONDARY REMOVAL  Influent TKN (mg/L)  I PRIMARY REMOVAL  Influent TKN (mg/L)  I PRIMARY REMOVAL  Influent TKN (mg/L)  Secondary TKN (mg/L)  I PRIMARY REMOVAL  Influent Total P (mg/L)  Primary Total P (mg/L)  Primary Total P (mg/L)  Secondary Total P (mg/L)  Secondary Total P (mg/L)	RAW SEWAGE FLOW  I of Design Flow  Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL  Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL INFluent NH4 (mg/L) Primary NH4 (mg/L) Primary NH4 (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL	RAN SENAGE FLOW  2 of Design Flow  Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL  Influent SS (mg/L) Primary SS (mg/L) 2 PRIMARY REMOVAL 3 SECONDARY REMOVAL 4 SECONDARY REMOVAL 5 SECONDARY REMOVAL 5 SECONDARY REMOVAL 6 Influent NH4 (mg/L) Primary NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) 2 PRIMARY REMOVAL 5 SECONDARY REMOVAL 6 Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) 1 PRIMARY REMOVAL 2 SECONDARY REMOVAL 3 SECONDARY REMOVAL 4 Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) Secondary Total P (mg/L) Secondary Total P (mg/L)	RAN SENAGE FLOW  I of Design Flow  Influent BOD (mg/L)  Primary BOD (mg/L)  Secondary BOD (mg/L)  I PRIMARY REMOVAL  SECONDARY REMOVAL  Influent SS (mg/L)  Primary SS (mg/L)  Secondary SS (mg/L)  I PRIMARY REMOVAL  I SECONDARY REMOVAL  I SECONDARY REMOVAL  Influent NH4 (mg/L)  Primary NH4 (mg/L)  Secondary NH4 (mg/L)  I PRIMARY REMOVAL  I SECONDARY REMOVAL  I SECONDARY REMOVAL  I SECONDARY REMOVAL  Influent TKN (mg/L)  Primary TKN (mg/L)  Secondary TKN (mg/L)  I PRIMARY REMOVAL  I SECONDARY REMOVAL	PARAMETER : DAY 8 : DAY 9 : DAY  RAN SEWAGE FLOW :	PARAMETER DAY 8 : DAY 9 : DAY 10  RAW SEWAGE FLOW  Influent BOD (mg/L)  Primary BOD (mg/L)  Secondary BOD (mg/L)  Influent SS (mg/L)  Primary SS (mg/L)  Primary SS (mg/L)  Influent SS (mg/L)  Primary SS (mg/L)  Influent NH4 (mg/L)  Influent NH4 (mg/L)  Primary NH4 (mg/L)  Influent NH4 (mg/L)  Influent NH4 (mg/L)  Influent TKN (mg/L)  Secondary TKN (mg/L)  Influent Total P (mg/L)  Influent Total P (mg/L)  Primary Total P (mg/L)  Secondary Total P (mg/L)  Secondary Total P (mg/L)	PARAMETER DAY 8 : DAY 7 : DAY 10 :  RAW SEWAGE FLOW :	PARAMETER DAY 8 : DAY 9 : DAY 10 : DAY  RAW SEWAGE FLOW  Influent BOD (mg/L) Primary BOD (mg/L) Secondary REMOVAL Influent SS (mg/L) Primary SS (mg/L) Primary SS (mg/L) Secondary REMOVAL Influent NH4 (mg/L) Primary REMOVAL Influent NH4 (mg/L) Primary REMOVAL Influent NH4 (mg/L) Secondary NH4 (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) Secondary TKN (mg/L) Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L)	PARAMETER : DAY 8 : DAY 9 : DAY 10 : DAY 11  RAW SEWAGE FLOW :	PARAMETER : DAY 8 : DAY 9 : DAY 10 : DAY 11 : I  RAN SEWAGE FLOW  Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) I PRIMARY REMOVAL Influent SS (mg/L) Secondary SS (mg/L) Secondary SS (mg/L) I PRIMARY REMOVAL INFluent NH4 (mg/L) I PRIMARY REMOVAL INFluent NH4 (mg/L) Secondary NH4 (mg/L) Secondary REMOVAL I SECONDARY REMOVAL I SECONDARY REMOVAL I SECONDARY REMOVAL I SECONDARY REMOVAL INFluent TKN (mg/L) Secondary TKN (mg/L) Secondary TKN (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL	RAW SEWAGE FLOW  I of Design Flow  Influent BOD (mg/L)  Primary BOD (mg/L)  Secondary BOD (mg/L)  I PRIMARY REMOVAL  I SECONDARY REMOVAL  Influent SS (mg/L)  Primary SS (mg/L)  I PRIMARY REMOVAL  I SECONDARY REMOVAL  I SECONDARY REMOVAL  I SECONDARY REMOVAL  I SECONDARY REMOVAL  I PRIMARY REMOVAL  I PRIMARY REMOVAL  I PRIMARY REMOVAL  I SECONDARY REMOVAL	PARAMETER : DAY 8 : DAY 9 : DAY 10 : DAY 11 : DAY 12  RAN SEWAGE FLOW : : : : : : : : : : : : : : : : : : :	PARAMETER : DAY 8 : DAY 9 : DAY 10 : DAY 11 : DAY 12 : D  RAW SEWAGE FLOW :	PARAMETER : DAY 8 : DAY 9 : DAY 10 : DAY 11 : DAY 12 : DAY  RAW SEWAGE FLOW :	PARAMETER	PARAMETER	PARAMETER

#### CORNNALL WPCP

TREATMENT FACILITY: Primary

PERIOD ENDING:

April 3, 1987

SAMPLING SEASON:

Winter (Cold Weather)

DESIGN AVE FLOW:

			SAMP	LING PERIO	D			===
PARAMETER	1 DAY 15 1							
RAN SEWAGE FLOW Compared to the second secon	62,120	66,110	57,460 ; 153.232;	54,870	55,090 : 146.912;	η mil	 	
I Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) PRIMARY REMOVAL SECONDARY REMOVAL	 						       	
Influent SS (mg/L)   Primary SS (mg/L)   Secondary SS (mg/L)   Z PRIMARY REMOVAL   Z SECONDARY REMOVAL	94.0     35.0     62.8					100	           	
II Influent NH4 (mg/L) I Primary NH4 (mg/L) Secondary NH4 (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL					1		: :	
:: Influent TKN (mg/L) :: Primary TKN (mg/L) :: Secondary TKN (mg/L) :: Z PRIMARY REMOVAL :: Z SECONDARY REMOVAL								
Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) PRIMARY REMOVAL SECONDARY REMOVAL	1.80	1.50   	1.80 ; 0.90 ; 50.0 ;	1.80	1		;; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	

	PLANT NAME : Cornwall PLANT TYPE : Primary	ME:	: Cornwall	. He r						SAMPL	SAMPLING TYPE SAMPLE FORM		Raw Sewage Wet Weight			
CONTAM- INANT	CONTAM- CONTAMINANT NAME	UNITS QC CODI	OC CODE M	QC FLANT CODE MIN. CONG. ) > A.DL	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT * FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
CONVENTIONALS	IONALS															
BODS COD DOC NNHTFR NNTKUR PH PPUT RSP	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL, FILT REAC. NITROGEN-TOT-KIEL, UNF. TOT (LOG(H+(CONCN)) PHOSPHORUS, UNFILT, TOTAL RESIDUE, PARTICULATE	35555 55	0000000	29.40 66.00 9.00 4.55 8.50 6.78 1.63 35.30	134.00 2222.00 18.50 9.75 16.30 7.06 3.55 94.20	0000008	0000000*	100.0 100.0 100.0 100.0 100.0 100.0	267 260 271 273 273 273 278 248	266 238 271 274 273 248 248	99.6 100.0 100.0 100.0 100.0 100.0	6041 135.86 1253 6.35 12.36 6.91 2.54 54.45	140.23 287.75 22.39 15.37 25.44 6.90 5.18	157	1.93 1.81 1.81 1.69 1.05 1.51	100.0 100.0 100.0 100.0 100.0 100.0
METALS																
ALUT CUUT SRUT SRUT CRUT COUT COUT PBUT	ALLMINUMUNPILTTOTAL COPPER, UNPILTTOTAL MIRCORY, UNPILTTOTAL ZINC, UNPILTTOTAL ZINC, UNPILTTOTAL CIRCOMUMUNPILTTOTAL COBALT, UNPILTTOTAL SILVER, UNPILTTOTAL MOLY REISNUM, UNPILTTOTAL LEAD, UNPILTTOTAL	3555555555	000000000	610.00 30.00 0.06 800.00 50.00 20.00 10.00 40.00	3600.00 30.00 1200.00 100.00 30.00 30.00 40.00 130.00	=-8======	11237111011	100.0 100.0 100.0 100.0 63.6 27.3 18.2 9.1	322 49 283 319 322 322 322 321 321 321	306 48 274 318 315 237 82 82 82 41	95.0 98.0 96.8 99.7 73.8 25.5 25.5 17.7	1450.00 30.00 0.13 940.00 20.00 10.00 10.00 10.00 50.00	1000.10 110.60 0.23 370.70 211.00 51.10 9.30 12.40 12.40	1.85 0.00 1.44 1.13 1.77 1.77 1.75 1.52 1.53	2.65 2.28 2.14 2.94 3.44 2.53 1.72 1.72	97.3 97.1 100.0 100.0 100.0 89.2 89.2 83.8 75.7 75.7
BASE NEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	UNDS														
PMMCRE	M-CRESOL PHENOL	35	7 7	22.80 18.40	69.40	0 0 0	80 C4	20.0	275	167	42.9	9.10	25.59	1.50	3.45	78.4
PESTICID	PESTICIDES, HERBICIDES, PCBS															
P324D P1BHCG P1BHCB P1BHCB P1BHCB P1PPDD P1PDD P1PPDD P1PDD P1PDD P1PDD P1PDD P1PDD P1PDD P1PDD P1PDD P1PDD P1PDD	24-DICH OROPHENOXYACITIC ACID GAMMA- BHC(HEXCH LORCYCL BEXANE) ENDOSULPAN SULPIATIE ENDOSULPAN SULPIATIE MERIX SULVEX PCB, TOTAL PP-DDE PP-DDE PP-DDE PP-DDE PP-DDE PP-DDE PP-DDE PP-DDE PP-DDE PP-DDE PP-DDE PP-DDE PP-DDE		m 4 m m 6 m m m	0.09 0.02 0.03 0.03 0.03 0.10 0.00 0.09 0.09	0.68 0.04 0.27 0.04 0.10 0.10 0.03 5.80 0.09 0.09	0000000000000	0.044444	100.0 60.0 40.0 20.0 20.0 20.0 10.0 10.0 10.0	276 276 276 276 276 276 276 276 276 276	214 143 133 133 133 133 133 133 133 133 1	77.5 81.8 87.8 11.6 10.1 18.2 18.2 18.4 18.3 18.4 18.7 18.8 18.8 18.8 18.8 18.8 18.8 18.8	0.27 0.08 0.08 0.01 0.00 0.00 0.00 0.00 0.00	0.13 0.02 0.03 0.03 0.03 0.03 0.04 0.04 0.04	2.22 1.66 1.60 1.70 1.70 1.34 1.28 1.28	3.72 2.29 1.56 1.66 1.28 1.38 1.74 1.34 1.26	100.0 94.6 16.2 35.1 10.8 46.0 13.5 13.5 18.9 18.9 18.9
VOLATILI	VOLATILES ORGANIC COMPOUNDS													-		
XIIIIT XICHIAO XIDCI.B BEZEBNZ BEZETYR XII2CE XII2CE	1,1,1-TRICHOROETHANE CHLOROPORM 1,1-DICHLOROPORM ETHYLBEWENE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE CARBON TETRACHLORDE	3333333		91.00 47.00 130.00 45.00 58.00 120.00 42.00	230.00 112.00 220.00 45.00 88.00 120.00 42.00	2222222	<b>VEN</b>	200 200 200 200 200 200 200 200 200 200	274	28 28 30 30 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	7.7 10.2 2.6 2.6 11.0 3.3 0.7 0.7	20.27 20.65 20.27 20.58 20.25 20.25 20.25 20.25	23.18 23.50 23.50 23.50 23.50 20.28 20.08	3.08 2.02 2.48 1.29 1.76 1.26 1.26	1.74	18.9 13.4 13.5 10.8 27.4 27.4

PLANT NAME: Cornwall PLANT TYPE: Primary

SAMPLING TYPE : Final Effluent

GLOBAL % PREV. 000.0 000.0 000.0 000.0 85.7 85.7 85.7 57.1 57.1 57.1 57.1 0000 0000 0000 0000 143 57.1 429 429 57.1 GLOBAL SPREAD FACTOR 1.42 425544844844 2 2 2 8 1.75 1.80 1.28 1.28 1.01 1.55 1.65 1.65 1.65 1.65 PLANT SPREAD FACTOR 48.40 12.80 11.80 11.80 6.88 6.88 1.34 29.57 0.00 0.00 3.90 55.00 56.50 56 GEOBAL GEO. MEAN SAMPLE FORM: Wet Weight 59.28 14.36 5.42 11.36 6.89 0.02 0.02 0.05 30 62 GEO. MEAN GLOBAL % FREQ. DET. 0000 0000 0000 0000 0000 1000 1100 46.2 12.8 12.8 20.5 33333328442 \* SAMPLES 33333348334 36 36 2222222222 PLANT % FREQ. DET. 00.0 00.0 00.0 00.0 75.0 25.0 25.0 8.3 8.3 30.0 00000000044 SAMPLES PLANT 2020001000 202227722222 2222 222222222222 PLANT PLANT MIN. CONC. MAX. DET. > DL CONC. 0.08 10.00 1 2.60 0.00 18.00 220 220 8.30 6.75 6.75 0.15 0.15 07 9 9 9 9 9 9 9 NYS-STD ONT-MOB NYS-GUL ONT-MOE ONT-MOE ONT-MOE NYS-STD ONT-MOB ONT-MOB ONT-MOB ONT-MOE ONT-MOE ONT-MOE NYS-S'ID STD. REF. ONT-MOE ONT-MOR ONT-MOR HOM-LNC ONT-MOB ONT-MOB STD. FOR 75.00 75.00 75.00 30.00 100.00 5.00 5.00 5.00 5.00 5.00 000 1.00 SURFACE 0.00 0.01 WATER 200 UNITS <del>\$\$\$\$\$\$\$\$\$\$\$\$</del>\$\$ 5555 5555555555555 IASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS GAMMA-BHC(HEXCHLORCYCLHEXANE) 2,4-DICHLOROPHENOXYACETIC ACID BETA-BHC (HEXCHLORCYCL/IEXANE) 2,4,5-TRICLORPHENOXYACETIC ACD HEXACHLOROCYCLOPENTADIENE
1,24-TRICHLOROBENZENE BOD, 5 DAY -TOTAL DEMAND CHEWICAL, OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL FILT TRAC. NITROGEN-TOT-KJEL, UNF-TOT CONTAMINANT NAME SILVER, UNPILT. TOTAL MOLYBDENUM, UNPILT. TOTAL CYANIDE-FREE, UNFILT REAC. PHOSIHIORUS, UNPILT. TOTAL NITRATES, TOTAL FILT. REAC. BUTYLBENZYLMITHALATE STRONTIUM, UNFILT. TOTAL CHROMIUM, UNFILT. TOTAL. ALUMINUM, UNFILT: TOTAL MERCURY, UNFILT. TOTAL CADMIUM, UNFILT. TOTAL ENDOSULPAN SULPHATE RESIDUE, PARTICULATE COBALT, UNFILT. TOTAL COPPER, UNFILT.TOTAL NICKEL, UNHIL'T.TOTAL HEXACHLOROGITHANE NITRITE FILT. REACT. ZINC, UNFIL, T. TOTAL EAD UNFILT TOTAL ESTICIDES, HERBICIDES, PCBS (-LOG(H+(CONCN)) PHENOLICS (4AAP) NAPITITALENE HEPTACHLOR PCB, TOTAL PHENOL. SILVEX MREX PP-DDT CONVENTIONALS CONTAM. BODS COD DOC NNHTFR NNTKUR PH PHUT RSP NNO2FR NNO2FR X2HCB P1BHCB P3245T P1ECBT P3SILV P1ENDS P1HEPT P1MEX P1PPDT X1HCCP CCNFUR ALUT SRUT ZNUT CDUT CRUT COUT MOUT

	L GLOBAL D % PREV.	2517 28.6 254 85.7 2272 71.4 364 14.3 364 14.3 14.3 14.3 14.3 14.3 14.3 14.3 14.3
	GLOBAL SPREAD FACTOR	22222222
	PLANT SPREAD FACTOR	6.77 3.23 4.04 6.04 1.56 1.55 2.70
ent	GLOBAL GEO. MEAN	2.34 2.05 2.07 2.07 1.84 1.84 1.84 1.57
: Final Effluent : Wet Weight	FLANT GEO. MEAN	20.99 15.22 15.22 3.87 3.87 1.23 1.14 1.14
TYPE :	GLOBAL * FREQ. DET.	26.1 25.3 25.3 26.1 26.1 26.1 26.1 26.1
SAMPLING TYPE :	GLOBAL # DET.	10 13 13 10 10
SC 50	GLOBAL # SAMPLES	8 8 8 8 8 8 8 8 8
	PLANT % FREQ. DET.	90.0 80.0 90.0 90.0 90.0 10.0 10.0
	PLANT	***************************************
	PLANT	22222222
	PLANT C. MAX. DET. CONC.	160.00 33.00 12.00 110.00 110.00 3.00 13.00 23.00
	MIN. CONC.	3.70 4.60 2.70 12.00 70.00 70.00 3.80 15.00 15.00
nwali	R STD, REF	NYS-GUL NYS-GUL NYS-SEUL NYS-SEUL ONT-MOB NYS-GUL ONT-MOB NYS-GUL
PLANT NAME: Cornwall PLANT TYPE: Primary	UNITS QC 510. FOR 5TD, REF. CODE SURFACE WATER	50,00 0,40 0,70 0,07 1,00 1,50 1,50 1,50 1,50 1,50 1,50 1,50
PLANT NA	UNITS QC	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
	CONTAMINANT NAME	VOLATILES ORGANIC COMPOUNDS  XITTIT  XICTET  CARBON TETRACIALOREDHANE  XITTIT  XITTIT
	CONTAM. INANT	VOLATILES XITHT XICHT XICHT XICHT XICHT XICHT XICHT XICHT BADAY BASTYR RESTYR XITRIC

PLANT NAME: Cornwall PLANT TYPE: Primary

SAMPLING TYPE: Raw Studge SAMPLE FORM: Dry Weight

GLOBAL % PREV.		100.0 100.0 100.0 100.0 100.0 100.0 100.0		94.4 100.0 97.1 97.1 100.0 100.0 100.0 100.0 173.3	853	90 90	38.2 60.7 50.0 79.4 17.7 17.7
GLOBAL SPREAD FACTOR		2.19 2.22 2.22 2.29 1.10 1.10 1.43 1.43 1.77		2.61 2.51 2.01 2.01 2.08 2.88 2.28 2.28 2.29 2.29 2.29 2.29 2.2	12.16	294	3.29 2.69 3.10 3.18 3.18 5.21 6.23 6.20 2.74 2.28 2.28
PLANT SPREAD FACTOR		1.07 1.39 1.39 1.00 1.39 1.00		138	. 331	2.20	3.02 1.28 1.20 1.10 2.13 2.13 9.74 9.74 1.09 1.09 1.09 1.09
GLOBAL, GEO, MEAN		892221.45 5911.32 25.44 36897.85 6.03 82.34 20347.70 32783.51 20803.05		30.17 9835.74 6.13 9.74 30.143 6.06.31 2.23 5.80 5.81 5.81 5.81 5.80 5.81 7.3.59 3.04 23.1.70 9.05.39	116847.30	240	7.40 8.90 7.20 45.80 88.70 7.30 9.30 9.30 5.50 18.60
PLANT GEO. MEAN		1150957.40 1675.51 7.53 20681.12 5.96 118.84 16157.66 48776.94		13.36 58348.27 6.45 1.65 53.26 261.31 1.64 2.87 1.493 115.06 3.87.38 3.87.38	83428.70	3.70	17.56 14.20 61.30 40.80 4.10 84.50 11.20 6.50 6.30
GLOBAL % FREQ. DET.		97.9 97.9 89.6 100.0 100.0 100.0 100.0		88.9 100.0 98.0 93.0 93.0 100.0 100.0 100.0 13.2	82.3	0.9	38 39 39 39 39 39 20 20 20 20 20 20 20 20 20 20 20 20 20
GLOBAL.		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$		6 2 8 6 8 6 8 8 8 8 2 8 8 8 8 8 8 8 8 8	5	e	28 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
GLOBAL.		\$ 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2	80	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
PLANT % FREQ. DET.		0.001		0.001 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	100.0	20.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
PLANT # DET.		~ ~ ~ ~ ~ ~ ~ ~ ~ ~		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	4	-	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
PLANT # SAMPLES		<b>0000000000000000000000000000000000000</b>			~	п	~~~~~~~~
PLANT MAX. DET. CONC.		258.14 9.51 2706.131 5.97 238.57 20359.41 20359.41 20350.00		15.22 59642.15 6.56 1.99 23.68 261.31 1.69 2.96 2.114 149.11 337.97 3.58	194503.20	6.40	38.10 16.90 12.70 63.40 69.80 42.80 11.90 21.10
QA/QC PLANT CODE MIN. CONC. > DL		1095427.44 1097.42 5.96 15805.17 5.95 59.20 12823.06 47300.00		57082.45 6.34 1.37 22.85 261.31 1.59 2.78 10.54 88.79 1.59 38.055 317.12 3.58	35785.30	6.40	800 11.90 6.00 59.60 23.90 4.00 16.90 10.60 21.10 13.90
UNITSQA/QC PLAN CODE MIN. CO		118/88 0 118/88 0 118/88 0 118/88 0 118/88 0 118/88 0 118/88 0 118/88 0 118/88 0 118/88 0 118/88 0 118/8		112/48 0 0 112/48 0 0	POUNDS ug/kg 1	ug/kg 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
CONTAMINANT NAME	HONALS	CHEMICAL, OXYGEN DEMAND AMMONUDM, TOTAL, FILT REAC. NITRACTES, TOTAL, FILT REAC. NITROGEN, TOTA, ALIE, UNP. TOT CLOXICH (CONCN) PHENOLICS (AAAP) PHOSPHORUS, UNFILT TOTAL RESIDUE, TOTAL. RESIDUE, TOTAL.		SILVER UNFILTTOTAL. ALUMINUM, UNFILTTOTAL. ARSENIC, UNFILTTOTAL. CADMIUM, UNFILTTOTAL. CORPER, UNFILTTOTAL. COPPER, UNFILTTOTAL. MERCURY, UNFILTTOTAL. MICHELLINDIAL. INCREE, UNFILTTOTAL. INCREE, UNFILTTOTAL. IEAD, UNFILTTOTAL. SELENIUM, UNFILTTOTAL. SELENIUM, UNFILTTOTAL. SELENIUM, UNFILTTOTAL. SELENIUM, UNFILTTOTAL. ZINC, UNFILTTOTAL. ZINC, UNFILTTOTAL. COBALT, UNFILTTOTAL.	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS NAMCRE M.CRESOL.  BIÓXINS AND PURANS	94CDF TETRACHLORODIBENZOHJRAN PESTICIDES,HERBICIDES,PCBS	BETA-BHC (BEXCHLORCYCH HEX GAMMA-BHC(BEXCHLORCYCLHEX DHELDRIN METHOXYCHLOR METHOXYCHLOR PP DDE 24 DICHLOROPHENOXYACETIC 1,24-TRICHLOROBENZENE ALPIN BHC(BEXCHLORCYCLHEX ENDOSULANN H ENDOSULANN H
CONTAM-	CONVENTIONALS	COD NNIHTER NNOTER NNTEKUR PH PH PH PST RST RST	METALS	ACUT ALUT ANUT COUT CCRUT HIGUT MOUT HIGUT NUUT PBUT SHUT SHUT COUT	BASE NEU PMMCRE DIOXINS	P94CDF	PIBLICB PIBLICG PIDLEL PIDMOT PIPCBT PIPCBT PIPCBT PIPLICA PIBLICA PIBLICA PIENDS

A-4-14

CONTAM: CONTAMINANT NAME	NAME	UNITSQA/C	UNFTSQA/QC PLANT CODE MIN. CONC. > DL	PLANT MAX. DEF. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT * FREQ. DET.	GLOBAL.	GLOBAL.	GLOBAL. % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD PACTOR	GLOBAL SPREAD PACTOR	GLOBAL.
PIHIEN: HEPTACHLOREPOXIDE PLEADD PP.DDD	XIDE	ugks 2 ugks 1	9.90	9.90	2 2		\$6.0 \$0.0	25 15	2 5	25.5	3.50	5.00	2.99	2.62	35.3
VOLATILES ORGANIC COMPOUNDS	OUNDS														
XIBDCM BROMODICTILOROMETHANB XIGHLO CHLOROFORM (CHCL3)	OMETHANE HCL3)	ug/kg 1	1749.50 6765.30	1749.50	22		50.0	51	12	20 23.5	1640.10	934.60	2.05	1.82	35.3

SAMPLING TYPE: Raw Studge SAMPLE FORM: Dry Weight

> PLANT NAME: Cornwall PLANT TYPE: Primary

PLANT NAME: Cornwall PLANT TYPE: Primary

SAMPLING TYPE: Treated Studge SAMPLE FORM: Dry Weight

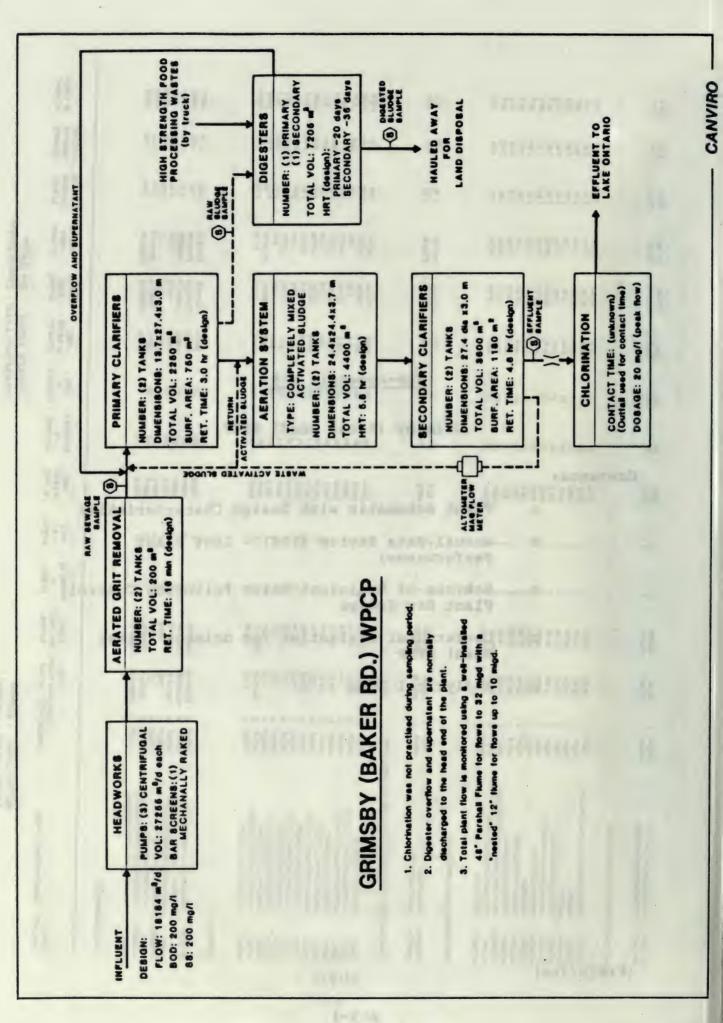
The contribution of bases																
The National Property   The	CONTAM- INANT		ONITSO	A/QC PLANT SDEMIN. CON > DL			PLANT # BET.	PLANT % FREQ. DET.	GLOBAL, # SAMPLES	GLOBAL #	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL.
CHANGE   C	CONVENT	IONALS														
BERNELLY REAL MATERIAL FOLIAL.	COD NNTKUR PH PHNOI.	CIEMICAL OXYGEN DEMAND NITROGEN-TOT-KLEL, UNF.TOT (-LOXILL-(CONCN)) PHENOLICS (AAAP)		968	968888.89 25800.00 7.20 66.08	- 0 0 0	- 9 9 9 9	100.0	36 6 4 4 6 6 5	8844	100.0	968888.89 24093.57 7.15 40.91	\$08097.94 38494.12 7.17 43.05	0.00	4.68 9.11 9.11	100.0 100.0 100.0 87.9
SHAPE, UNBILITORAL.  AMAZINE LINEAR TOTAL.  MAY 10 68255 791111 2 2 1000 44 44 11000 1744 1778 140 228 1114 228 1000 68254 791111 2 2 1000 95 95 95 95 95 95 95 95 95 95 95 95 95	RST RST RSTIOI	PHOSPHORUS, UNPILITIOTAL, RESIDUE, TOTAI, RESIDUE, TOTAI, RESIDUE, TOTAI,			45940.01 227000.00 117000.00	n n n	n n n	100.0	S S S	£ 8 8	100.0	33970 76 225997.79 113026.01	76638.67 80434.04 43379.33	1.01	3.23	100.0
SHOWING TOTAL.  SHOWEN THE TOTAL	METALS															
COMPATIONELLY TOTAL.  THE ACT OF ACT	AGUT ASUT CDUT	SII VER UNFILT TOTAL. AJAIMINUM, UNFILT TOTAL. ARSENIC, UNFILT TOTAL. CADMIUM, UNFILT TOTAL.		6546	22.04 79111.11 6.67 2.67	~~~	4444	100.0	4002	4 6 8 14 2 6 4 14	100.0 100.0 98.0 91.1	17.41 71963.99 6.18 2.65	37.78 10715.94 5.40 10.47	641101	2.33 2.82 2.06 3.98	100.0 100.0 97.1
NAMESTINGENERAL   NAMESTINGE	CRUT	COBALT, UNPILT, TOTAL. CHROMIUM, UNPILT, TOTAL. COPPER, UNPILT, TOTAL. MERCURY, UNPILT, TOTAL.			8.00 75.56 320.00 3.83	- 7 - 7 -	- 7 - 7 -	0.000	88888	30 S 4 4 5	82.1 100.0 100.0 98.0	89.12 320.00 3.12	9.14 333.06 732.24 3.24	8 1 8 4 8 8 4 8 4 8	2.75 3.59 2.04	85.7 100.0 100.0 97.1
PHENATHERNE   ULTRA I STRATCH BETTER COMPOUNDS   133330   108850   2   2   10000   50   12   24,0   1757,0   1475,50   1.22   4.27	SEUT SRUT SRUT	HEADLUNGT TOTAL SELENIUM UND LITOTAL STRONTIUM UND LITOTAL ZINC, UND LITOTAL			144.93 1.78 457.78 417.78	- 0 0 0 0	- 0 0 0 0	0.001	28888	2 4 4 8 8	98.0 96.0 100.0 100.0	139.01 1.77 396.61 413.71	196.62 2.67 240.93 988.90	8 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2.58 2.58 2.58 2.54	97.1 97.1 100.0 100.0
PHENANTHENE   UMA   1   1333-3   7048-50   2   1   100.0   50   12   4.7   1475.0	BASENEU	TRAL AND ACID EXTRACTABLE COM	POUNDS													(d)
PCB_TOTAL   UNABLE	PNPIEN	PAGNANTI (RENE) CHRYSENE			7048.50	77	~ ~	100.0	50	12	24.0	6131.20	2220.50	1.22	3.39	26.5
PCB_TOTAL    UMAR   1	PESTICIDI	ES,HER BICIDES,PCBS														
LE ORGANIC COMPOUNDS	PIECRI X2124 X2124 PIBLICA PIOHIA PIDIBL. PIDIBL. PILIEPE PIPPOE PIPPOE	PCB, TOTAL.  1,24-TRICH OROBENZENE BETA-BHC (HEXCH LORCYCLHEX ALPHA-CHLORDANE GAMMA-CHLORDANE DBJJARIN METHOXYCH OR ENDOSTJEN STJPHATE HEZYACTHLOREROXIDE PP ÓDD PP ÓDD PP ÓDD PP ÓDE			207 66 130 00 17.30 26.00 26.00 11.30 11.80 11.80 23.90 86.90		00	100.0 100.0 50.0 50.0 50.0 50.0 50.0 50.	88888888888	22 22 22 22 22 22 23 15 15 16 16 16 17	\$ 45.0 \$ 45.0 \$ 45.0 \$ 30.0 \$ 30.0 \$ 12.0 \$ 14.0 \$ 16.0 \$ 16.0	136.40 56.70 8.70 9.50 10.70 6.70 40.60 35.60 7.20 12.00 10.30	114.10 14.80 8.80 6.50 6.50 6.50 9.4.10 17.50 5.20 17.50 5.20 17.50 9.4.20	1.81 2.89 2.63 2.63 2.83 2.64 2.01 4.16 3.31 2.65 2.65 2.65 2.65 2.65 2.65 2.65 2.65	4.38 5.02 6.39 6.39 9.51 2.58 2.41 2.43 2.45 2.47 2.72 2.72	64 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
ETHYLHENZAMECKHIO)         ugrae 1         1155.60         1155.60         12         50.0         50         14         28.0         319.10         606.50         6.17         5.59           CHILOROFORM (CHICL3)         ugrae 1         297.80         297.80         2         1         50.0         50         12         24.0         162.00         441.70         2.37         4.33	VOLATILL	E ORGANIC COMPOUNDS														
	HZP-BNZ X1CHLO	ETHYLBENZI-NE (CHILO) CHLOROFORM (CHICL3.)	ug/kg	1 297.80	1155.60 297.80	7 7		50.0	20.50	112	24.0	319.10	606.50	2.37	4.33	32.4

# Sub-Appendix A-5

# Grimsby (Baker Road) WPCP

### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- O Sources of Municipal Water Pollution Control Plant Raw Sewage
- O Operational Evaluation for Grimsby (Baker Road) WPCP
- o Analytical Data



BAKER ROAD WPCF Conventional Activated Sludge Phosphorus Removal - Continuous Capacity - 18.184 18(3)e3/day

PARAMETER	1981	1982	1983	1984	1985	MEAN ANNUAL AVERAGE
Avg. Daily Flow (1880 m3/day)	8.89	18.50	18.71	10.75	11.98	10.57
BODS - Influent (mg/L) BODS - Effluent (mg/L) Annual BODS Significantly	192.68	98.88	81.28 5.99	181.84	115.42	98.85 8.51
Different from Mean Annual Average BOD5?	1.0.	I.D.	I.D.	I.D.	I.D.	
		1	1		!	1
TSS - Influent (mg/L) TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean	167.78	169.00	166.68 5.28	165.52	148.67 7.19	161.98 7.14
Annual Average TSS?	I.D.	i.D.	i I.D.	I.D.	I.D.	
Total P - Influent (mg/L)  Total P - Effluent (mg/L)  Amoual TP Significantly  Different from Mean	6.18 8.49	4.98 6.88	5.38 B.86	5.11 8.72	5.46 : 8.68	5.39 8.69
Annual Average TP? TP in Compliance?	I.D.	I.D.	I.D.	I.D.	I.D.	Y

1.D. - Insufficient Data

SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE  DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED		AL ACTIV	VATED SLUDGE L CONTINUOUS
% OF TOTAL FLOW ATTRIBUTED TO:	Sa will		
INDUSTRIAL SOURCES (%)	0		
COMMERCIAL SOURCES (%) (Population x 0.0757)	12		
RESIDENTIAL SOURCES (%) (Population x 0.175)	28		
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from	N 60	.De-	
industrial, commercial and residential sources)	E.F. BALL		
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER	1 0		
NO OF SIC CATEGORIES	1		
DESCRIPTION OF THE TOP 5 INDUSTRIES (BASED ON WATER USE DATA)	S DISCHARGED	TO THE	WPCP

DESCRIPTION

SIC

# OF

COMPANIES

OPERATIONAL EVALUATION FOR: GRIMSBY (BAKER ROAD) WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: April 24, 1987 SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 18,184 m3/d

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				PRE-SAM	PLING PERI	00		!
111111111111111111111111111111111111111	PARAMETER :	DAY 1			DAY 4 1			DAY 7
2 1 2 2 3 8	RAW SENAGE FLOW	37,055	39,869	25,685	20,139	7,593 1	16,320	15,911
2 1 1 1 2 1 3 1 5 1 1 1	I of Design Flow	203.782	219.251	141.251	110.75%	41.76%	89.75%	87.50%
11-	Influent BOD (mg/L)	31.0 1				38.0 :		
2 2	Primary BOD (mg/L)	85.0	2	1		49.0 :	1	
11	Secondary BOD (mg/L)	7.0				6.0 :		
2 2	% PRIMARY REMOVAL	-174.2%		5 8	3 2	-28.9%	1	1
1 1	% SECONDARY REMOVAL	77.421	1	1	1	84.2%	1	3 8
11-	Influent SS (mg/L)	60.0	60.0	50.0	72.0	180.0	58.0	60.0
3 12 2 2 2	Primary SS (mg/L)	210.0 :	88.0 :	134.0 :	130.0 :	66.0 1	58.0 :	76.0
5 1	Secondary SS (mg/L)	20.0 :	24.0 1	23.0 ;	19.0 :	10.0 :	11.0 ;	18.0
2 1 2 1	Z PRIMARY REMOVAL	-250.0%	-46.7%	-168.0%;	-80.6%;	63.3%	0.0 :	-26.7%
11	I SECONDARY REMOVAL	66.7%	60.021	54.0%	73.62:	94.421	81.02	70.01
11-	Influent NH4 (ag/L)	3.2 1			:	6.1		 
3 2 3 3	Primary NH4 (mg/L)	4.6 1	2 2	3	3	8.3 :	8	2
11	Secondary NH4 (mg/L)	0.5 :	1 2	1 1	2 2	0.2 :	\$ 8	1
2 2	I PRIMARY REMOVAL	-43.721	1	1	3 3	-36.1%;	3 1	1 1
11	Z SECONDARY REMOVAL	84.421	!	1		96.71		
11	Influent TKN (mg/L)	6.1	1	!	!	10.7	1	1 2 9
11	Primary TKN (mg/L)	14.5	8 1	3 3	1 2	12.1	1	1
1 1	Secondary TKN (mg/L)	1.4 1	1	!	3	1.2 ;	8	1
11	I PRIMARY REMOVAL	-137.7%	3	2 8	1	-13.121	1	1
11	% SECONDARY REMOVAL	77.021				88.821		
11	Influent Total P (mg/L)	1.80	2 0	8 9	2 5	4.50	2 2	1
2 S 2 2	Primary Total P (mg/L)	6.30 :	8 8	1 1	1	3.50 :	3 2	:
1 1	Secondary Total P (mg/L)	0.70 :	1 1	2 9	1	0.30 ;	1	1
11	I PRIMARY REMOVAL	-250.0%	3 8	1 1	1	22.2%	9 8	1
8.8	% SECONDARY REMOVAL	61.12	1 1	1	3 2	93.3%		1

# OPERATIONAL EVALUATION FOR: GRIMSBY (BAKER ROAD) WPCP

TREATMENT FACILITY: Secondary PERIOD ENDING: April 24, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 18,184 m3/d

11				PRE-SA	MPLING PER	100		
11	PARAMETER :	DAY 8 :	DAY 9	DAY 10 ;	DAY 11 :			
	RAW SEWAGE FLOW	22,950	16,457	15,320	15,275	14,684	13,456	13,034
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	% of Design Flow	126.2121	90.5021	84.251	84.001	80.75%;	74.002	71.68%
 	Influent BOD (mg/L)	47.0 :			52.0 1			 
11	Primary BOD (mg/L)	49.0 :	1	1	60.0 :	1	1	1
11	Secondary BDD (mg/L)	32.0 :	1	1	17.0 1	1	1	;
11	Z PRIMARY REMOVAL	-4.37!	1	1	-15.421	1	+	1
11	% SECONDARY REMOVAL	31.92:	- !	1	67.32	1	1	1
11-	Influent SS (mg/L)	148.0 ;	100.0	89.0	139.0	188.0	330.0	130.0
11	Primary SS (mg/L)	81.0 :	89.0 1	96.0 ;	100.0 1	101.0 ;	64.0 1	44.0 1
11"	Secondary SS (mg/L)	19.0 1	5.0 1	6.0 1	8.0 :	11.0 :	17.0 1	12.0 1
11	Z PRIMARY REMOVAL	45.321	11.021	-7.921	28.121	46.3%	80.671	66.2%
11	Z SECONDARY REMOVAL	87.2%	95.021	93.31	94.21	94.121	94.8%	90.82
11-	Influent NH4 (mg/L)	7.1			8.0	1274		
11	Primary NH4 (mg/L)	6.3 1	1	;	11.9 1	1	1	1
11	Secondary NH4 (mg/L)	15.4 1	1	3	2.9 :		;	1
11	I PRIMARY REMOVAL	11.321	1	1	-48.7%!	1	1	1
11	% SECONDARY REMOVAL	-116.9%	1	1	63.721	1	1	1
11	Influent TKN (mg/L)	12.1	i		13.5			
11	Primary TKN (mg/L)	11.3 :	1	1	17.3 1	1		1
2 2	Secondary TKN (mg/L)	20.4 :	1	1	4.4 1	- 111	1	1
4 5	Z PRIMARY REMOVAL	6.6%	1	1	-28.17!	1	1	1
11	Z SECONDARY REMOVAL	-68.6%:		:	67.4%		1	1
11-	Influent Total P (mg/L)	3.60 1			4.00			
11	Primary Total P (mg/L)	2.80 1		1	3.80 1	- 1	1	1
11	Secondary Total P (mg/L)		1	1	0.20 ;	1	1	1
11	% PRIMARY REMOVAL	22.21	1	1	5.011	1	1	1
11	% SECONDARY REMOVAL	83.321	1	1	95.021	1	1	1

### GRIMSBY (BAKER ROAD) WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: April 24, 1987
SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: 18,184 m3/d

1 1				SAMP	LING PERIO	D		
	PARAMETER	DAY 15	DAY 16 :	DAY 17 :	DAY 18 :	DAY 19	DAY 20	DAY 21
=			=======					
2 0	5.411 SF114SF F1 S11		10.010	10.500	10 170	44 104 1		8
	RAW SEWAGE FLOW		12,919 :			11,684		1
	% of Design Flow		71.05%			64.25%		5 2
2		!	1 1	1	1	1		3 8
1 -					}			}
	Influent BOD (mg/L)		1	3	:	8		3
3 3	Primary BOD (mg/L)	i i	i	i 1	i	i		i
	Secondary BOD (mg/L) Z PRIMARY REMOVAL	i i		i	i	i		5
1 1	Z SECONDARY REMOVAL	1 1	1		1	1		1
-	# JECONDAN'I NEHOVAE							
	Influent SS (mg/L)	410.0 1	174.0 1	120.0 1	148.0 1	194.0		1
	Primary SS (mg/L)	44.0	52.0	40.0 :	52.0 :	40.0		1 1
1 1	Secondary SS (mg/L)	4.0	9.0 :					2 2
1 1	2 PRIMARY REMOVAL	89.321						1 1
	% SECONDARY REMOVAL	99.01	94.81	93.321	95.91	96.4%		1
-	Influent NH4 (mg/L)	:		;				
	Primary NH4 (mg/L)	1 1	1	1	1	1		1
	Secondary NH4 (mg/L)	1 1		1	1	1		1
2 3	Z PRIMARY REMOVAL			:	:	1		1
	1 SECONDARY REMOVAL		1	:		·		1
1 1 -	******************	;	:					
8 E	Influent TKN (mg/L)	1	3	ž I	1	1		1
1 3	Primary TKN (mg/L)	: :	9	1	3			1
8 8	Secondary TKN (mg/L)		1	1	3	1		1
2 2	% PRIMARY REMOVAL		1	8	1	1		1
1 9	% SECONDARY REMOVAL	i i	i	i	i	1		
11	Influent Total P (mg/L)	ii		;	;			
1 8	Primary Total P (mg/L)	1 1	3	8	1	8		1
# H	Secondary Total P (mg/L)	1 1	3		3	1		!
5 B	2 PRIMARY REMOVAL	:		8	1			!
	I SECONDARY REMOVAL	!!		1	1	1		!

PLANT NAME: Grimsby (Baker Road) PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

CONTAM-	CONTAMINANT NAME	UNITS QC CODE			PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
1 2	CONVENTIONALS										-					
	BOD, S DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL FILT REAC. (LOGH+(CONCN)) PHOSPHORUS, UNFITTOTAL RESIDUE, PARTICULATE		0000000	\$6.60 196.00 12.20 21.80 7.16 \$.08	265.00 298.00 20.00 14.60 26.00 7.36 5.90 138.00	<b>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</b>	47 10 10 10 10 10 10 10 10 10 10 10 10 10	100.0 100.0 100.0 100.0 100.0 100.0 100.0	267 260 271 , 273 273 275 248	266 258 271 274 273 275 248 266	99.6 100.0 100.0 100.0 100.0 99.6 99.6	144.11 245.13 16.16 13.23 23.74 7.27 5.41 102.34	140.23 287.75 22.39 15.37 25.44 6.90 5.18	1.78 1.19 1.108 1.00 1.00 1.24	1.93 1.82 1.81 1.69 1.47 1.93	1000 1000 1000 1000 1000 1000 1000
METALS																
5	HGUT MERCURY, UNFILITIOTAL UN SRUT STRONTHUL, UNFILITIOTAL UN SRUT ZINCE, UNFILITIOTAL UN SRUT ZINCE, UNFILITIOTAL UN COURT COMMUM, UNFILITIOTAL UN COURT CORALT UNFILITIOTAL UN CRUT CHROMUM, UNFILITIOTAL UN LEAD, UNFILITIOTAL UN LEAD, UNFILITIOTAL UN UNFILITIOTAL UN	3333333	0000000	150.00 0.21 100.00 0.00 20.00 110.00	770.00 0.36 780.00 0.00 70.00 110.00	<b>NNNNNNN</b> N	n n n n n d d = =	100.0 100.0 100.0 100.0 40.0 20.0 20.0	322 283 319 322 322 322 322	306 274 318 315 76 82 237 57	95.0 96.8 99.7 99.7 87.8 25.5 73.6 7.7.1	360.00 0.24 450.00 270.00 10.00 10.00 40.00	1000.10 0.23 370.70 211.00 6.50 9.30 51.10 59.50	1.27 2.01 2.01 2.30 1.25 1.36 2.38	2 2 2 2 2 2 3 3 3 3 4 4 4 4 1 8 8 4 4 1 8 8 4 4 1 8 8 4 4 1 8 8 4 4 1 8 8 4 4 1 8 8 4 4 1 8 8 4 4 1 8 8 4 4 1 8 8 4 1 8 8 4 1 8 8 4 1 8 8 4 1 8 8 4 1 8 8 1 8 8 1 8 8 1 8 8 1 8 8 1 8 8 1 8 8 1 8 1 8 8 1 8 1 8 8 1 8	97.3 100.0 100.0 100.0 70.3 83.8 89.2 51.4
PMMCRB PMPHEN PNPYR	M-CRESOL PIGNOL PYRENE	222	-7-	51.40 27.60 15.00	\$1.40 27.70 15.00	nnn	1 2 2	40.0	275 275 275	167	60.7 42.9 0.4	16.20 12.64 8.62	25.59 14.52 7.51	287 2.04 1.36	345 246 1.26	86.5 78.4 2.7
DES	PESTICIDES, HERBICIDES, PCBS															
	METHOXYCH.OR 24-DICH.OROPHENOXYACETIC ACID BETA-BHC (HEXCHLORCYCL.HEXANE) GAMMA-BHC(HEXCHLORCYCL.HEXANE) 1,24-TRICHLOROBENZENE	33333	-6-26	0.02 0.03 0.03 0.03	290 0.72 0.04 0.03	<b>~~~~~</b>	× × n	100.0 100.0 20.0 20.0	276 276 276 276 276	214 32 143 35	17.0 77.5 11.6 51.8	0.26 0.02 0.01 0.01	0.08 0.13 0.01 0.02	134 452 194 163 136	3.14 3.72 1.66 2.29 2.48	43.2 100.0 35.1 94.6 40.5

DESIGNATION OF REAL PROPERTY.

		PLANT NAME: Grimsby (F)	NAME	: Grimst	PLANT NAME : Grimsby (Baker Road) PLANT TYPE : Secondary	Road)					VS	SAMPLING TYP SAMPLE FORM	TYPE : F	SAMPLING TYPE: Final Effluent SAMPLE FORM: Wet Weight	at .			
CONTAM. INANT	CONTAMINANT NAME	UNITS QC		STD. FOR SURFACE	STD. FOR STD. REF. SURFACE WATER	PLANT MIN. CONC. M > DL	NT PLANT CONC. MAX. DET. DL CONC.	PLANT # SAMPLES	PLANT # DET.	FLANT % FREQ. DET.	GLOBAL F SAMPLES	GLOBAL # DET.	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL S. PREV.
CONVENTIONALS	ONALS																	
80D8	BOD, S DAY -TOTAL DEMAND	me.	00		4 4	11.90	32.00	so se	en en	100.0	213	211	98.1	18.90	21.22	1.55	2.07	0.001
200	DISSOLVED ORGANIC CARBON	me/L	0		٠	8.00	7.00	1 40	. 99	100.0	220	220	100.0	5.96	8.09	1.13	1.60	1000
NNITTER	AMMONIUM, TOTAL FILT REAC.	meA	0			5.75	11.50	<b>%</b>	<b>%</b>	100.0	223	204	91.5	7.80	3.90	131	86.9	1000
NNO2FR	NITRITE FILT. REACT.	mgA	0		•	0.20	0.40	W) V	en e	0.001	220	194	22.5	0.26	0.22	7	5.95	8 2
RHIONN	NITRATES, TOTAL FILT. REAC.	me/l	0 0			2.03	14.60	n w	n ×n	100.0	222	222	100.0	10.36	797	1.28	271	1000
H	(-LOG(H-CONCN))		. 0		٠	7.45	7.73	*	*	100.0	224	224	100.0	7.58	7.10	1.02	1.05	100.0
PPUT	PHOSPHORUS, UNFILT: TOTAL	meA.	0		,	0.29	0.87	9	9	0.001	211	206	97.6	0.40	0.68	1.49	1.97	1000
RSP	RESIDUE, PARTICULATE	me.	0			9.50	14.20	νı	au au	100.0	220	219	906	10.76	10.12	1.17	200	0.001
METALS																		
SRUT ZNUT ALUT COUT	MERCURY, UNFILT: TOTAL STRONTIUM, UNFILT: TOTAL ZUC, UNFILT: TOTAL ALUMIUM, UNFILT: TOTAL CADMIUM, UNFILT: TOTAL	7777	00000	3750.00 30.00 75.00 0.20	ONT-MOB ONT-MOB ONT-MOB ONT-MOB	530.00 20.00 40.00 0.00	820.00 820.00 60.00 90.00	n 0 0 0 0	20042	100.0 100.0 100.0 86.7	253	220 267 262 196 65	94.4 100.0 98.1 74.2 24.3	0.01 720.00 40.00 50.00 0.00	940.90 53.30 101.70 2.10	1.46 1.18 1.30 1.74 1.79	262 214 248 3.72 207	100.0 100.0 100.0 96.4
PESTICIDI	PESTICIDES, HERBICIDES, PCBS																	
PIDMDT P324D P1TOX	METHOXYCHLOR 24-DICHLOROPHENOXYACHTIC ACID TOXAPHENE	777	1 6 0	4.00	ONT-MOE ONT-MOE	0.20	0.20	***	44-	100.0	22 22 22	31	13.7 78.0 1.3	0.31	0.04	1.58	272 471 1.13	35.7 100.0 7.1

PLANT NAME: Grimsby (Baker Rd.)
PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight

GLOBAL, 38.2 50.0 50.0 50.0 50.0 50.0 17.7 17.7 19.4 33.3 38.3 38.3 0000 0000 0000 0000 0000 0000 94.4 97.1 96.9 96.9 96.9 96.9 8. GLOBAL SPREAD FACTOR 22.58 12.16 97 PLANT SPREAD FACTOR 000 90 GLOBAL GEO. MEAN 30.17 6.13 301.43 2.23 173.99 3.04 231.70 905.39 8.40 892221.45 5911.32 25.44 36897.85 6.03 82.34 20347.70 32783.51 20803.05 116847.30 794912.56 5182.83 21.46 35771.07 6.72 100.16 39427.66 62900.00 32300.00 PLANT GEO. MEAN 19.71 6.58 6.68 174.88 3.50 174.88 12.72 365.66 62.00 4.80 9.50 9.50 9.50 9.50 9.20 9.20 9.20 4.80 19.10 109.70 153100.20 4.00 GLOBAL % FREQ. DET. 97.9 89.6 90.0 90.0 90.0 82.3 GLOBAL DET. SAMPLES GLOBAL. PLANT % FREQ. DET. 0.00 SAMPLES UNITSQA/QC PLANT PLANT CODE MIN. CONC. MAX. DET. > DL CONC. 4.00 6.72 100.16 39427.66 62900.00 32300.00 19.71 6359.30 6.68 174.88 12.72 365.66 4.80 9.50 9.50 4.80 9.20 9.22 9.22 4.80 19.10 \$182.83 21.46 35771.07 ug/kg 1 453100.20 453100.20 2146 318283 2146 35771.07 6.72 100.16 39427.66 62900.00 62.00 4.80 9.50 9.50 9.50 9.50 9.20 9.20 19.10 109.70 00000000 00000000 \*\*\*\*\*\* BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS BETA-BHC (HEXCHLORCYCLHEXANE) ALPHA CHLORDANE GAMMA CHLORDANE DIELDRIN 2,4-DICHLOROPHENOXYACETIC HEXACHLOROBENZENE OCTACHI.ORODIBENZOFURAN AMMONIUM, TOTAL, FILT. REAC. CHEMICAL OXYGEN DEMAND NITRATES, TOTAL, FILT. REAC. NITROGEN-TOT-KJEL, UNF. TOT PHENOLICS (4AAP) PHOSPHORUS, UNFILT TOTAL RESIDUE, TOT LOSS ON IGNI. SILVER, UNPIL, T.TOTAL, ALUMINUM, UNPIL, T.TOTAL, ARSENIC, UNFILL, TOTAL, CHROMBUM, UNFILT. TOTAL.
MERCURY, UNFILT. TOTAL. SHJENIUM, UNHILT TOTAL STRONTHUM, UNHILT TOTAL CONTAMINANT NAME HEPTACH LOREPOXIDE LEAD, UNFILT TOTAL. AINC, UNITE, T. FOTAL. PESTICIDES, HERBICIDES, PCBS (-LOCKIH-(CONCN)) RESIDATE TOTAL MFTHOXYCHOR ENDOSULPAN II ENDOSOLPANI PCB, TOTAL. DIOXINS AND FURANS M-CRESOL FNURIN DOIG AL PP-DDE CONVENTIONALS CONTAM. METALS NNOTTRUR NNTRUR PH PHINOL PPRJT RST RSTLOI PICHLA PICHLA PICHLA NNITTE PIDMIDE PIEND2 98CDP PIENDI PLENDR PIPCHT PIPPINE P324D X21KB PHHEPE DUMPIP PHOHEL CRUT ASUT

A-5-10

÷ Å		SAMP	SAMPLE FORM	E : Treated Slu : Dry Welght	SAMPLING TYPE: Treated Studge SAMPLE FORM: Dry Weight			
CHEMICAL OXYGEN DEMAND   marks   0   754601 23   754601 23   1987 73   1987 73   1900 0   1	PLANT GLOBAL % FREQ. # DET. SAMPLES	AL GLOBAL.	GLOBAL.	PLANT GEO. MEAN	GLOBAL. GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD PACTOR	GLOBAL
CHEMICAL OXYGEN DEMAND								
NITROGRAPIA   TOTAL FILT RELACE   Magaba   1982   1990		36	100.0	754601.23	508097.94	0.00	4.65	100.0
HESIDUR; TOTAL   Mg/kg   0 3294.34   1 100.0   1		2 6 5	100.0	58.28 42944.79	42.68	0.00	2.20	100.0
SHIVER THE TOTAL		8 8 8	100.0	32924.34 48900.00 22300.00	76638.67 80434.04 43379.33	0.00	3.23	100.0
SHIVER TREET TOTAL								
ALUMINUM, UNINITETOTAL.  ARSENIC (UNINITETOTAL.  MEACURY, INFILITIOTAL.  MEACURY, INFILITION, INFILITION, INFILITION, INFILITION, INFILITION, INFILITION, INFILITION, INFILITI	100.0	4	0.001	19.72	37.78	00'0	2.33	100.0
CHROMINALINELLITOTAL   THE   CHROMINAL		0 0 0 0	0.001	9406.95	10715.94	0.00	2.82	97.1
MERCHRY LINE ALTOTAL		200	0.001	265.85	333.06	00.00	3.59	100.0
SHEARTH MAINTER TOTAL   mg/kg   0 22.49   12.49   1   100.0		9 9	0.88	147.24	196.62	000	2.46	97.1
STRONTHEM, UNFILTTOTAL   mg/kg   0 470.33 470.35   1   100.0			0.96	22.49	2.67	0.00	2.98	97.1
DES.HERBICIDES,PC185		200	100.0	2249.49	948.90	0.00	2.57	100.0
ALPHA-BHCGHEXCHLORCYCLHEXANE) ug/kg   510   510   1   100.0  BETA BHCGHEXCHLORCYCLHEXANE) ug/kg   57.30   57.30   1   100.0  METHOXYCHLOR   ug/kg   4090.00   4090.00   1   100.0  PCB, 10TAL   ug/kg   2   104.30   1   100.0  PCB, 10TAL   ug/kg   2   25.50   1   100.0  PCB, 10TAL   100.0								
HETA BHCCHEXCHLORCYCLIHEXANB  \( \underset{ug/kg} \)   \( 57.30 \)   \( 57.30 \)   \( 17.30 \)   \( 17.30 \)   \( 17.30 \)   \( 17.30 \)   \( 17.30 \)   \( 17.30 \)   \( 17.30 \)   \( 17.30 \)   \( 17.31 \)   \		=	22.0	5.10	8.60	0.00	3.00	32.4
METHOXYCHLOR	100.0	61	38.0	57.30	18.80	0000	4.39	17.1
P. DIJA. P.		22	30.0	104.30	114.10	000	24.4	2.05
24 STRICT ORDINENOXYACTET CACID LINEAR 3 67.50 67.50 1		36	0.99	22.50	11.10	00.00	2.72	73.5
		16	32.0	67.50	84.40	0000	3.13	41.2
2,4-DICHLOROPHENOXYACHTIC ACID ug/kg 3 306/70 1 1 100.0		25	20.0	306.70	75.00	0.00	3.81	4 6
PPSEIL V SILVER ORDER VIEW 1 1 100.0 5 5 7 5 7 5 1 1 100.0 5 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7		21	42.0	5.10	7.00	0.00	2.96	55.9

# Sub-Appendix A-6

# Guelph WPCP

### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Guelph WPCP
- o Analytical Data

GUELPH WPCP Conventional Activated Sludge Phosphorus Removal - Continuous Effluent Polishing Capacity - 54.552 10(3)m3/day

PARAMETER	1981	1982	1983	1984	1985	HEAN ANNUAL AVERAGE
Avg. Daily Flow (1000 m3/day)	42.32	44.32	44.38	43.57	47.72	44.45
BDD5 - Influent (mg/L) BDD5 - Effluent (mg/L) Annual BDD5 Significantly	200.80 19.00	169.98	: : 189.73 : 14.88	206.17 15.55	188.42 7.52	189.24 15.89
Different from Mean Annual Average BOD5?	I.D.	I.D.	i I.D.	1.0.	i I.D.	1
TSS - Influent (mg/L) TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean	378.80 16.80	196.18	24B.36 18.42	432.75	245.08 7.73	388.86 11.94
Annual Average TSS?	I.D.	1.0.	1.0.	I.D.	i I.D.	1
Total P - Influent (mg/L) Total P - Effluent (mg/L) Annual TP Significantly Different from Mean	18.88	6.88	9.78	12.79 8.96	7.82 8.83	9.44
Annual Average TP? TP in Compliance?	I.D.	I.D.	1.D.	1.D. Y	1.D.	. N

I.D. - Insufficient Data

# SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

# GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE  DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED POPULATION SERVED	GUELPH WPCP 120003094 CONVENTIONAL ACTIVATED SLUDGE PHOSPHORUS REMOVAL CONTINUOUS EFFLUENT POLISHING 54.552 46.267 82000
% OF TOTAL FLOW ATTRIBUTED TO:	The State of the S
INDUSTRIAL SOURCES (%)	25
COMMERCIAL SOURCES (%) (Population x 0.0757)	13
RESIDENTIAL SOURCES (%) (Population x 0.175)	31
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from industrial, commercial and residential sources)	N 31
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	307 180 46
DESCRIPTION OF THE TOP 5 INDUSTRIES	S DISCHARGED TO THE WPCP

# DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	SIC	# OF COMPANIES
COPPER FORMING	3357-3357	2
MACHINERY MFG	3500-3599	44
TRANSPORTATION EQUIPMENT	3711-3799	12
ELECTRICAL & ELECTRONIC COMPONENTS	3612-3690	14
GLASS MFG	3211-3229	1

### OPERATIONAL EVALUATION FOR: 6 U E L P H W P C P

TREATMENT FACILITY: Other (RBC's) PERIOD ENDING: March 27, 1987 SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 54,553 m3/d

1 1				PRE-SAM	PLING PERI	OD		
-	PARAMETER	DAY 1	DAY 2				DAY 6 :	DAY 7
;==		:	\$ 1	:	}		1	
7 1	RAW SEWAGE FLOW	52,780		50,070 :			45,500 :	
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	% of Design Flow	96.75%	90.651	91.782	93.217	90.962	83.412	78.751
	Influent BOD (mg/L)				241.0 (	273.0 1		
1	Primary BOD (mg/L)			1	129.0	176.0 1	1	
-	Final BOD (mg/L)			1	7.3 1	11.0 1	1	
1	I PRIMARY REMOVAL			1		35.52	£	
1	I FINAL REMOVAL		1	1	97.01	96.01	1	
	Influent SS (ag/L)	622.0	320.0	434.0	305.0 (	305.0		
1	-	119.0 ;	139.0 :	149.0 ;	127.0 :	162.0 1	2 2	
8		19.0 :	22.0 1	10.0 :		24.0 1	1	
9 9	Z PRIMARY REMOVAL	80.9%	56.6%	65.71:	58.42;	46.97:	2	
8 8		96.91	93.1%	97.7%	91.5%	92.121	1	
	Influent NH4 (mg/L)					13.7	;;-	
3 9	Primary NH4 (mg/L)	3 3	1	1	1 2	12.5 1	1 2	
9	Final NH4 (mg/L)	3 3	1	1	*	3.8 :	2 2	
i i	Z PRIMARY REMOVAL	1 1	1	1	2 2	8.8%	1 1	
	% FINAL REMOVAL		8	*	2 8	72.32	!	
1	Influent TKN (mg/L)		1	1				
B B	Primary TKN (mg/L)	1	3 1	1	1 1	1	5 8	
8	Final TKN (mg/L)	8 B	1	1	8	3 1	2 2	
3	I PRIMARY REMOVAL	1		2 2	F F	4	8 9	
B	% FINAL REMOVAL	2 2	1	1	1	1	8 1	
B	Influent Total P (mg/L)		7.10 ;	8.70 ;	8.30 ;	7.30 :	1 1	
9		3.80	4.40 1	3.30 :	5.00 1	5.00 1	1	
8		0.70	0.70 :	0.50 :	0.80 :	0.70 ;	1 1	
2	1 PRIMARY REMOVAL	59.1%;	38.0%;	62.1%;	39.8%;	31.5%	!	
1	% FINAL REMOVAL	92.5%	90.12;	94.32!	90.4%1	90.4%	1	

NOTE: NH4 samples were unpreserved!

### OPERATIONAL EVALUATION FOR: SUELPH NPCP

TREATMENT FACILITY: Other (RBC's) PERIOD ENDING: March 27, 1987

Winter (Cold Weather) SAMPLING SEASON:

DESIGN AVE FLOW: 54,553 m3/d

TEVES =			PRE-SA	MPLING PER	100		
PARAMETER	: DAY 8 :	DAY 9	DAY 10 :	DAY 11 :		DAY 13	
	1	1	1				
RAW SEWAGE FLOW	45,020	47,050	44,870 :	48,740 ;	47,160	43,310	
% of Design Flow	82.532	86.25%	82.25%	89.34%	86.45%	79.39%	
*****************	   -			·			
Influent BDD (mg/L)	259.0 1	246.0 1	290.0 1	1		u U I I	
Primary BOD (mg/L)	176.0 1	136.0 :	159.0 1	1			men'i II
Final BOD (mg/L)	14.0 1	20.0 :	15.0 1	1			
% PRIMARY REHOVAL	32.021	44.721	45.2%	1			172 11
% FINAL REMOVAL.	94.6%	91.9%;	94.8%			1	
Influent SS (mg/L)	341.0	320.0 :	333.0 :				
Primary SS (mg/L)	202.0 :	152.0 1	242.0 1	111 1			
Final SS (mg/L)	16.0 1	15.0 1	33.0 :	1	1		
Z PRIMARY REMOVAL	40.8%	52.5%	27.3%	1	1	- 1	
% FINAL REMOVAL	95.321	95.321	90.121	3	1		
Influent NH4 (mg/L)	9.6	15.4	15.5	;			
Primary NH4 (mg/L)	1 15.4 1	16.5 1	15.0 1	1	1		
Final NH4 (mg/L)	1 0.4 1	0.7 :	1.5 1	:	:	TU -0.	
Z PRIMARY REMOVAL	-60.4%	-7.1%!	3.21	1	1		
% FINAL REMOVAL	95.81	95.5%	90.321	1	1	1	
Influent TKN (mg/L)	1	1	1		1	;	
Primary TKN (mg/L)	1	1	1	1	1	** *** ***	
Final TKN (mg/L)	1 1	1	1	1	;	-0176	
% PRIMARY REMOVAL	;	1	1	1	- ;	1	m: II
% FINAL REMOVAL	1	1	1		1		
Influent Total P (mg/L)	8.70	8.00 1	8.30	1		be -	
Primary Total P (mg/L)	5.70	4.70 :	6.00 1	1	1	1	
Final Total P (mg/L)	0.90 1	0.90 1	0.70 :	1	1	1 - 1	
% PRIMARY REMOVAL	34.521	41.2%	27.7%	1	1	1	
% FINAL REMOVAL	89.7%	88.7%	91.6%;	-	;	- 1	

NOTE: NH4 samples were unpreserved!

### OPERATIONAL EVALUATION FOR: 6 U E L P H W P C P

TREATMENT FACILITY: Other (RBC's) PERIOD ENDING: March 27, 1987 SAMPLING SEASON: Winter (Cold Weather)

54,553 m3/d DESIGN AVE FLOW:

			SAMP	LING PERIO	ID .		
PARAMETER	DAY 15	DAY 16 :	DAY 17	DAY 18 :	DAY 19	BAY 20	1 DAY 21
		1			,		,
RAW SEWAGE FLOW	45.590	47,990 :	48,950	48.970	49,360		1
INIO DEMNOE I EDW	1 1	;	10,700	12,770	17,020		1
% of Design Flow	83.57%	87.97%	89.73%	89.77%	90.48%		1
	1 1	1	*	2	1		-
	-	;					
Influent BOD (mg/L)	! !	ŧ.	213.0				1
Primary BOD (mg/L)		1	125.0 1				1
Final BOD (mg/L)		1		14.0			
I PRIMARY REMOVAL				35.3			i
% FINAL REMOVAL	i i	; :!		95.6			i -!
Influent SS (mg/L)	338.0	343.0 :	319.0 :	532.0	400.0		1
Primary SS (mg/L)	1 158.0 1	88.0 :	146.0 :	159.0	162.0 :		3 3
Final SS (mg/L)	1 10.8 1	13.0 :	10.0 :	15.0	23.0 1		1
I PRIMARY REMOVAL	53.3 ;	74.3 1	54.2 1	70.1	59.5 1		2 2
I FINAL REMOVAL	96.8 1	96.2			94.2		
Influent NH4 (mg/L)	10.2	15.5			17.4		
	1 13.0 1	16.0 :	14.4 1	14.8	18.2		1
Final NH4 (mg/L)	1.2	1.1 1	0.8 :	1.2	0.9 :		2 8
I PRIMARY REMOVAL	1 -27.5 1	-3.2 :	13.8 1	7.5	-4.6		3
I FINAL REMOVAL	88.2	92.9 1	95.2	92.5	94.8		2 2
Influent TKN (ag/L)	1 1	;					1
Primary TKN (mg/L)	1 1	1	1				1

NOTE: NH4 samples were unpreserved!

II Z PRIMARY REMOVAL : : :

## Final TKN (mg/L) ;

: I PRIMARY REMOVAL

: I FINAL REMOVAL

43.0 | 51.6 | 48.2 | 42.5 | 47.1 |

1 94.6 1 95.7 1 95.2 1 95.4 1 94.3 1

1.2

GUELPH WPCP

TREATMENT FACILITY: Other (RBC's)
PERIOD ENDING: May 8, 1988

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 54,553 m3/d

	**********	*********	PRE-SAI	PLING PERI	(OD		* : : : : : : : : : : : : : : : : : : :
:: PARAMETER	DAY 1 :		DAY 3 1				
!! RAW SEWAGE FLOW	47,600 :	51,770 :	46,540 :	48,070 :	49,350 :	42,620 1	40,470 1
	87.25%	94.90%	85.312	88.12%	90.4621	78.1321	74.182
!! Influent BOD (mg/L)	;  		219.0 (	176.0	284.0 1	·}	
!! Primary BOD (mg/L)	}	1	149.0 ;	172.0 1	206.0 ;	;	1
ll Final BOD (mg/L)	1	1	24.0 1	6.0 1	18.0 1	1	- 1
:: % PRIMARY REMOVAL	;	1	32.0%	2.321	27.5%		1
## % FINAL REMOVAL	i i !	i !_	89.01	96.6%	93.7%		
!! Influent SS (mg/L)	1	329.0 1	267.0 1	244.0	363.0 1		
11 Primary SS (mg/L)	1	194.0 1	179.0 1	159.0 ;	180.0 :	- 1	1
!! Final SS (mg/L)		16.0 1	40.0 :	20.0 :	28.0 :	1	:
11 % PRIMARY REMOVAL	: :	41.021	33.021	34.821	50.4%	1	;
11 % FINAL REMOVAL	! !	95.121	85.0%	91.81	92.32!	1	11
	;;		7.9	10.2	15.5		
!! Primary NH4 (mg/L)	; ;	1	12.8 :	12.6 1	16.0 ;	1	1
!! Final NH4 (mg/L)	1	1	1.3 :	1.2 :	1.1 1	1	1
11 % PRIMARY REMOVAL	; ;	1	-62.021	-23.5%	-3.2%	1	1
11 % FINAL REMOVAL	1	1	83.521	88.21	92.9%!	1	1
!! Influent TKN (mg/L) !! Primary TKN (mg/L)	;i					,	1
Primary TKN (mg/L) Final TKN (mg/L)	i i	i 1	1	9	,		
:: % PRIMARY REMOVAL	; ;	1		1			
11 % FINAL REMOVAL	1		i	1	1	1	
11 T-/1 1 T-1 D / // )					0.70		
II Influent Total P (mg/L)	i i	8.00 (	6.30 1	5.30 :	8.30 1	i	11
<pre>## Primary Total P (mg/L) ## Final Total P (mg/L)</pre>	1 1	5.30 ;	4.60 1	5.00 1	5.30 :	i	1
11 7 PRIMARY REMOVAL	i i	0.80 {	27.0%	5.7%	34.1%		11
11 % FINAL REMOVAL	1 i	90.0%	85.71	86.811	91.6%		11
11 & FINAL REMOVAL		/V.VAI	03,721	00.011	71.041		

NOTE : NH4 samples were unpreserved!

TREATMENT FACILITY: Other (RBC's) PERIOD ENDING: May 8, 1988

SAMPLING SEASON: Summer (Warm Weather)
DESIGN AVG FLOW: 54,553 m3/d

11				PRE-SAI	IPLING PER	IOD		
2 3 5 3 F 3 1 1		DAY 8	DAY 9 :					
5 5 -								
9 8 9 9	RAW SEWASE FLOW	42,040	46,420	46,750	45,660	45,510	44,580	36,150
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	% of Design Flow	77.062	85.091	85.70%	83.70%:	83.422	81.72%	66.27%
-	Influent BOD (mg/L)			285.0 {	225.0	226.0		
1	Primary 800 (mg/L)	1	9	196.0 :	155.0 :	150.0 :	3 1	
8	Final BOD (mg/L)	1	2 1	28.0 1	35.0 :	32.0 :	2 2	
3	I PRIMARY REMOVAL	1	8	31.21	31.121	33.62:	1	
1	% FINAL REMOVAL	: :		90.2%	84.4%			
1	Influent SS (mg/L)		1	256.0	349.0 :	278.0		
8	Primary SS (mg/L)	2 9	2 0	172.0 :	133.0 :	164.0 :	9 8	
2	Final SS (mg/L)		8 8	22.0 :	43.0 :	37.0 :	3 3	
1 0	Z PRIMARY REMOVAL	1 1	8	32.8%	61.9%	41.07:		
1 1	I FINAL REMOVAL	1	1	91.42	87.7%	86.7%	1	
	Influent NH4 (mg/L)	1	1	11.4	9.1 (	11.8	;	
	Primary NH4 (mg/L)	:	1	12.2 1	12.8 :	11.6 ;	3 2	
1 1	Final NH4 (mg/L)	;	1	1.5 (	1.0 :	3.4 :	1	
8	% PRIMARY REMOVAL	1	9	-7.0%:	-40.7%	1.7%	1	
1	% FINAL REMOVAL	1	1	86.82	89.02	71.2%	:	
-	Influent TKN (mg/L)	1	:	1			!	
1	Primary TKN (mg/L)	1	4 2	8 8	9	9	2 2	
B	Final TKN (mg/L)	: :	8	3 1	1 1	8 1	!	
1 1	I PRIMARY REMOVAL	1 1	3 9	1 1	8	1	1	
	% FINAL REMOVAL	1 1	1	1	3	1	8	
1 1 -	Influent Total P (mg/L)	!	8.80	6.00	8.60	9.30	1	
11	Primary Total P (mg/L)	: 1	6.70 :					
2 1 2 1	Final Total P (mg/L)	1 1	0.70 1	0.80 :	0.90 1	1.00 :	1	
2 1	Z PRIMARY REMOVAL	1 1	23.921		48.8%		1	
11	% FINAL REMOVAL	1 1	92.011	86.711	89.51;	89.211	5	

NOTE: NH4 samples were unpreserved!

### BUELPH WPCP

TREATMENT FACILITY: Other (RBC's)

PERIOD ENDING: May 8, 1988

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW:

54,553 m3/d

				SAMP	LING PERIO	0		
	PARAMETER	: DAY 15 :			DAY 18 :		DAY 20	
	RAW SEWAGE FLOW	1 42,680 1	46,910	47,410 ;	46,130 ;	46,000 1		1
	% of Design Flow	78.24%	85.99%	86.9171	84.567	84.32%		1
	Influent BOD (mg/L)			255.0 1	175.0	210.0 1		·
	Primary BOD (mg/L)	1 1	1	160.0 :	159.0 1	165.0 1		1
	Final BOD (mg/L)	1		12.0 1	38.0 1	28.0 1		1
	7 PRIMARY REMOVAL	1		37.321	9.1%	21.4%		1
	% FINAL REMOVAL	1	!	95.321	78.32:	86.711		1
	Influent SS (mg/L)			345.0	297.0	281.0		1
	Primary SS (mg/L)	;	1	166.0 ;	173.0 1	132.0 1		1
	Final SS (mg/L)	1 1	1	21.0 1	70.0 :	79.0 1		1
	% PRIMARY REMOVAL	1	1	51.9%	41.8%	53.0%		1
	I FINAL REMOVAL	1 1	- 1	93.911	76.421	71.9%:		1
	Influent NH4 (mg/L)	!		9.2 (	12.2	11.3 {		!
	Primary NH4 (mg/L)			12.5	12.9	13.0 :		1
	Final NH4 (mg/L)			3.8 :	2.6 1	3.3 1		1
	% PRIMARY REMOVAL			-35.9%!	-5.7%	-15.0%		1
	% FINAL REMOVAL			58.71	78.71	70.821		1
-	****************							
	Influent TKN (mg/L)	1 1	1	1	1	1		1
	Primary TKN (mg/L)	1 1	;	1	;	3 2		1
	Final TKN (mg/L)	: :	1	1	1	1		1
	Z PRIMARY REMOVAL	; ;	1	1	1	1		1
	% FINAL REMOVAL	1 1	1	:	1			1 2
		·{}						
	Influent Total P (mg/L)	9.30 1		8.30 ;	6.70 1	7.90 1		1
	Primary Total P (mg/L)	5.30 1	4.70 :	5.30 1	7.30 :	4.70 1		1
	Final Total P (mg/L)	1.00 ;		0.80 ;	0.90 :	1.00 :		2 2
	Z PRIMARY REMOVAL	43.021	35.621	36.17!	-9.0%!	40.5%		1
	% FINAL REMOVAL	1 89.2%	87.71	90.4%	86.6%	87.321		1

NOTE: NH4 samples were unpreserved!

PLANT NAME: Gudph PLANT TYPE: Terdary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

mg/L         9 550         3050         9         1000         267         266         996         15           mg/L         0 3800         9 000         0 000         220         266         996         15           mg/L         0 1430         4920         9 000         220         266         996         15           mg/L         0 1430         4920         9 000         273         273         100         100           mg/L         0 1430         9 000         9 000         273         273         100         100           mg/L         0 1800         9 000         9 000         100         273         273         100         100           mg/L         0 1800         9 000         100         273         273         273         274         100         100         273         274         274         100         100         274	CONTAM- INANT	CONTAM: CONTAMINANT NAME. INANT	CODE	ODE WIL	CODE MIN. CONC. N. MDL	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	% FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL & FREQ. DET.	PLANT GEO. MEAN	GEOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
R. AMARONALIONAL TOTAL AND ACID EXTRACTOR BANKAND NUMBER AND ACID EXTRAC	CONVENTI	DNALS															
RESISTANCE CARRIENT NAME	3000	BOD S DAY TOTAL DEMAND			06 60	306.00	c	c	0001	757	366	700	149.41	140 33	1.43	. 00	0000
RISCOLVING CACACITY CARGING   14.50   19.00   19.00   277   271   10.00	000	CHEMICAL OXYGEN DEMAND	me/l		328.00	482.00	. 0	. 0	1000	260	258	90.2	385.15	287 78	1.15	1 82	1000
R. ANGHORIMATOTAL HT HEAC.   marger   1150   1500   1500   277   274   996   1000   277   274   996   1000   277   274   996   1000   277   277   1000   277   2	200	DISSOLVED ORGANIC CARRON	me.A.		14.50	80.00			0.001	271	177	1000	31.24	22.30	1 49	181	0001
RESIDENCE   PROPERTY FROM   1940	STITING	AMMONIUM TOTAL FILT REAC.	meA	0	11.80	19.20	0	•	100.0	275	274	9.66	14.21	15.37	1.16	1 60	1000
CONTRICATION   CONT	NTKUR	NITROGEN-TOT-KJEL,UNP.TOT	mg/l.	0	19.80	31.00	0	0	100.0	273	273	100.0	25.18	25.44	1.13	1.47	1000
PRINCHE PRESIDENT TOTAL	Ŧ	(-LOG(H+(CONCN))		0	6.55	8.00	6	6	100.0	275	275	100.0	66.9	6.90	1.06	1.05	1000
R. NISIRDIA, PARTICULATH	PUT	PHOSPHORUS, UNPIL, T. TOTAL	me/l.	0	3.18	7.97	10	10	100.0	248	248	100.0	5.57	5.18	1.29	1.51	100.0
The NTRICIPALIT REACT.   The No.   Color   C	SP	RESIDUE, PARTICULATE	meA.		118.00	611.00	00	00	100.0	797	266	9.66	203.22	126.88	1.70	1.93	100.0
CANUDIE PRIEGINFIT TRIAC.   ug/L   0   80.00   9   9   1100   271   872   393	NOZIA	NITRITIE FILT. REACT.	med	0	0.03	0.03	6	-	1.1	171	28	21.4	0.00	0.01	2.16	2.98	51.4
RECYANDE-PRIE, INPILITRIAC.   ug/L   0 6000 65000 9 9 9 1000   271 82 303 304 304 304 304 304 304 304 304 304																	
CHROMINION INTERFECT RELAC.   ug/L   0   1000   52000   9   9   1000   271   82   93   93   94   94   94   94   94   94	IETALS																
CANDRIGH ANNIALT TOTAL   100.00   50.00   19   100.00   271   272   273   274   27	-	THE R. P. LEWIS CO., LANSING MICH. LANSING MICH. LANSING,	•		0000		(	(									
COMPREDISTINGUILLY CONTRIBUTIONAL WAY 1 17000 55000 11 11 1000 552 257 750 750 750 750 750 750 750 750 750 7	CNIOR	CYANIDE-FREE UNFILL REAC.	ugu.	0	80.00	620.00	6	5	100.0	1/2	82	30.3	200.00	1.90	1.92	6.88	32.4
STATISTICAL	KUI	CHROMIUM, UNFILL I DI AL	ug.	0	170.00	320.00	= "	= "	100.0	322	237	73.6	330.00	51.10	1.33	3.44	89.2
STREAMTIMA, UNIT, TOTAL,   Unit,   U	100	CONTEKTON IN THE TESTAL	n S	0 0	30.00	190.00	7 0	70	100.0	640	20 to 0	98.0	160.00	110.60	1.31	2.28	97.1
AND CREATEST CONTROLLOR   AND CREATEST CONTROL   AND CREATEST CONTROLLOR   AND CREATEST CONTROLLOR   AND CREATEST CONTROL	100	MERCOR I, UNITILL I OLAL	To an		100.00	1.30		7 :	100.0	230	210	80.00	0.00	170.79	8	211	1000
ALIMINIAM INVITED TOTAL	105	SINCINISI T TOTAL			000000	4300.00			100.0	200	316	1.64	1300.00	370.70	10.1	417	100.0
CADMINIAL DINITY OTAL.  CADMINIAL DINITY OTAL.  ULL 0 2000 8300 11 3 453 322 76 220 220 81 75 71 77 74 75 74 75 74 75 74 75 74 75 74 75 74 75 74 75 74 75 74 75 74 75 74 75 74 75 74 75 75 75 75 75 75 75 75 75 75 75 75 75	1	ALIMINIM INIGHT TOTAL	100		230.00	\$100.00			0000	325	306	97.9	600.00	00.112	99.5	77	000.0
NICHERAL AND ACID EXTRACTABLE COMPOUNDS   NICHEL JUNE TOTAL   Night   Ni	TOO	CADMILIM UNITI T TOTAL	Ven		10.00	30.00	: :		45.5	122	36	23.6	1000	6.50	2.09	200	30.3
NUCHRAL JUNINTITIOTAL   Wyd. 0 \$000 37000 11 3 7 27 3 122 103 320	700	COBALT, UNFILT. TOTAL.	Went.	0	20.00	80.00	-		27.3	322	82	25.5	10.00	9.30	2.08	231	81.8
SILVER LINER LINER TOTAL  SILVER LINER LINER TOTAL  SILVER LINER TOTAL  SILVER LINER TOTAL  SILVER LINER STRACTABLE COMPOUNDS  NEUTRAL AND ACID EXTRACTABLE COMPOUNDS  SILVER STRACTABLE	5	NICKEL, UNFILT TOTAL	ug.	0	90.00	370.00	=	3	27.3	322	103	32.0	40.00	38.80	2.47	2.70	7
HADDININITATIOTAL.   Unit	775	SILVER, UNPILT, TOTAL	ug/l.	0	30.00	30.00	11	2	18.2	321	82	25.6	10.00	10.40	241	2.55	757
REDITRAL AND ACID EXTRACTABLE COMPOUNDS	5	LEAD, UNITLY TOTAL.	West.	0	00.09	120.00	=	2	18.2	322	57	17.7	00.09	59.50	1.30	1.86	51.4
REDITAL AND ACID EXTRACTABLE COMPOUNDS																	
New Color   New	SE NEUT	RAL AND ACID EXTRACTABLE COMPO	CNDS														
Particular   Philippin   Phi	<b>IMCRB</b>	M-CRIISOL	ug.A.	1	19.40	60.30	10	•	0.09	27.5	167	60.7	20.12	25.59	2.54	3.45	86.5
BUTYLIBINZYLAFITIALATH   Ug/L   1   1010   82.90   10   5   50.0   275   34   12.4	APIGEN	PHENOL.	ugh.	2	16.10	42.80	10	9	0.09	275	118	42.9	16.50	14.52	2.08	246	78.4
RE O-CHESOL	ABBP	BUTYLBENZYLPITIIALATE	ug/l.	-	10.10	82.90	10	S	90.0	275	34	12.4	9.86	5.85	2.50	1.66	37.8
2.4-DIGHLONG/PHENOL.  2.4-DIMETHY PRINTING/PHENOL.  2.4-DIGHLONG/PHENOL.  2.	40CRB	O-CRESOL.	ug/L	2	22.00	216.50	10	2	20.0	275	9	2.2	11.69	7.72	2.94	1.39	8.1
Variable Intripried	A24DP	2,4-DICHLOROPHENOL	ug/		76.80	76.80	10	-	10.0	275	-	0.4	14.99	12.57	1.78	1.29	27
### SECTION CONTINUE OF THE NUMBER OF THE NU	M24MP	2,4-DIMETHYLPRENOL	Ne.	2	33.90	33.90	10	_	10.0	275	-	0.4	13.81	12.54	1.37	1.27	2.7
### CALLOROPHENOL WILL 1 181.40 19.40 10.0 275 1 0.04  ### CALLOROPHENOL ETHER WILL 1 181.40 19.50 10.0 10.0 275 1 0.04  ### CALLOROPHENOL ETHER WILL 1 181.40 181.40 10.0 1775 1 0.04  ### CALLOROPHENOL ETHER WILL 1 18.50 10.0 10.0 275 1 0.04  ### CALLOROPHENOL WILL 1 18.00 10.0 10.0 275 2 0.07  ### BIS-CT-GLOROPHENOL WILL 1 18.00 10.0 10.0 275 2 0.07  ### BIS-CT-GLOROPHENOL WILL 1 18.00 10.0 10.0 275 2 0.07  ### BIS-CT-GLOROPHENOL WILL 1 18.00 10.0 10.0 275 4 1.05  ### BIS-CT-GLOROPHENOL WILL 1 18.00 10.0 10.0 275 4 1.05  ### BIS-CT-GLOROPHENOL WILL 1 18.00 10.0 10.0 275 4 1.05  ### BIS-CT-GLOROPHENOL WILL 1 18.00 10.0 10.0 275 1 0.04  ### BIS-CT-GLOROPHENOL WILL 1 18.00 10.0 10.0 275 1 0.04  ### BIS-CT-GLOROPHENOL WILL 1 18.0 10.0 10.0 275 1 0.04  ### BIS-CT-GLOROPHENOL WILL 1 18.0 10.0 10.0 275 1 0.04  ### BIS-CT-GLOROPHENOL WILL 1 18.0 10.0 10.0 275 1 0.04  ### BIS-CT-GLOROPHENOL WILL 1 18.0 10.0 10.0 275 1 0.04  ### BIS-CT-GLOROPHENOL WILL 1 18.0 10.0 10.0 275 1 0.04  ### BIS-CT-GLOROPHENOL WILL 1 18.0 10.0 10.0 275 1 0.04  ### BIS-CT-GLOROPHENOL WILL 1 18.0 10.0 10.0 275 1 0.04  ### BIS-CT-GLOROPHENOL WILL I 18.0 10.0 10.0 275 1 0.04  ### BIS-CT-GLOROPHENOL WILL WILL I 18.0 10.0 10.0 275 1 0.04  ### BIS-CT-GLOROPHENOL WILL WILL WILL WILL WILL WILL WILL WI	MZNP	2 MITROPHENOL.	ne.		29.40	29.40	01		10.0	275	-	0.4	13.62	12.53	131	1.26	2.7
### STATION OF PRINCIPLES, PARTICIPLE ### 181.40 10 10 275 1 0.04  ### STATION OF PRINCIPLE ### 181.40 10 1 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 195.50 95.50 10 1 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 2 0.07  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 2 0.07  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 2 0.07  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 10.00 10.0 10.0 275 1 0.04  ### STATION OF PRINCIPLE ### 10.00 275 1 0.04  ### S	MADE	A PROPERTY A COLDINITION OF THE PROPERTY OF TH	500	7	19.40	19.40	0.	, ma	10.0	2/3	-	0.4	15.04	12.57	1.79	1.29	2.7
THE CHILDROPHENOL.  THE CH	AACDD	4 CALL ODOM HAND DEBANG STARS	5		181.40	181.40	01		0.01	275	, ma	0.4	10.31	7.58	2.74	1.35	2.7
BISCOLLORONITION:   100.00	MAND	4. NEW OWIENDS	, Maria		36.10	34.10	0.0	۰.	0.0	2/2		0.4	6.72	5.03	2.54	1.33	2.7
HE BISACH GRONDING PROPERTIES WITH THE BISACH GRONDING PROPERTIES	MROUM	RISCO, CHI OBESTHONY VAMETHANTE		<b>y</b> -	30.10	106.70	0.0		0.01	27.5	m c	1.0	13.90	12.65	1.40	1.29	
## BIS-Q-CARLOROMETHYL),ETHER  ##L 2 101.50 101.50 10 1 10.0 273 2 0.7  ## BIS-Q-CARLOROMETHYL),ETHER  ##L 2 101.50 101.50 10 1 10.0 273 2 0.7  ## DIMETHYL PHTIALATH  ##L 1 117.60 117.60 10 1 10.0 273 4 11.5  ## DIMETHYL PHTIALATH  ##L 1 117.60 117.60 10 1 10.0 273 4 11.5  ## DIMETHYL PHTIALATH  ##L 1 117.60 117.60 10 1 10.0 273 1 0.4  ## DIMETHYL PHTIALATH  ##L 1 117.60 117.60 10 1 10.0 273 1 0.4  ## DIMETHYL PHTIALATH  ##L 1 103.90 103.90 10 1 10.0 273 1 0.4  ## DIMETHYL PHTIALATH  ##L 1 103.90 10.0 10 1 10.0 273 1 0.4  ## DIMETHYL PHTIALATH  ##L 1 103.90 10.0 10 1 10.0 273 1 0.4  ## DIMETHYL PHTIALATH  ##L 1 103.90 10.0 10.0 273 1 0.4  ## DIMETHYL PHTIALATH  ##L 1 103.90 10.0 10.0 273 1 0.4  ## DIMETHYL PHTIALATH  ##L 1 103.90 10.0 273 1 0.4  ## DIMETHYL PHTIALATH  ##L 1 103.90 10.0 273 1 0.4  ## DIMETHYL PHTIALATH  ##L 1 103.90 10.0 273 1 0.4  ## DIMETHYL PHTIALATH  ##L 1 103.90 10.0 273 1 0.4  ## DIMETHYL PHTIALATH  ##L 1 103.90 10.0 273 1 0.4  ## DIMETHYL PHTIALATH  ##L 1 103.90 10.0 273 1 0.4  ## DIMETHYL PHTIALATH  ##L 1 103.90 273 1 0	MB2IE	BIS(2-CHI OROISOPROPYI JETHER	New York	4	124.00	134.00	2 9	٠.	0.01	27.5	7 -	0.0	6.79	5.09	2.03	1.38	9.6
P DIMETHYL PITTIALATH  WM. 1 117:60 117:60 10 1 10.0 273 4 1.5  D NATRIASOS DEPHENTAMINE W.M. 1 117:60 10 1 10.0 273 4 1.5  D NATRIASOS DEPHENTAMINE W.M. 1 103:90 10 10 10.0 275 1 0.4  AC P-CHLOROPHENOL W.M. 1 103:90 10.0 10 1 10.0 275 1 0.4  D 2-CHLOROPHENOL W.M. 1 30:50 30:50 10 1 10.0 275 1 0.4  D 2-CHLOROPHENOL W.M. 1 30:50 30:50 10 1 10.0 275 1 0.4  H PENTACHLOROPHENOL W.M. 1 118:40 118:40 10 10.0 275 5 1.8  CLORE, HER BICIDES, PCBS	MH2NE	BIS-(2-CHLOROMETHYL)ETHER	Van		05 101	101.50	01		0.01	275		0.4	0.03	2.63	37.0	1.33	17
D N-NTROSO-DI-PHENYLAMINE ug/L 1 121.60 1 121.60 1 1 10.0 273 1 0.4  P N-NTROSO-DI-PHENYLAMINE ug/L 1 103.90 103.90 10 1 10.0 275 1 0.4  AC P-CHILORO-M-CRISOL ug/L 1 103.90 103.90 10 1 10.0 275 1 0.4  AC P-CHILORO-M-CRISOL ug/L 0 32.20 32.20 10 1 10.0 275 1 0.4  A C-CHILORO-M-CRISOL ug/L 1 30.30 30.50 10 1 10.0 275 1 0.4  H PENTACHI-OROPHENOI, ug/L 1 118.40 118.40 10 1 10.0 275 5 1.8  CIDES, HERBICIDES, PCBS	MOMP	DIMETHYL PITTIALATE	ne.		117.60	117.60	01	•	10.01	275	4 4	200	6.86	\$ 10	2.71	1 32	* ×
P N-NTROSO-DI-NPROPYLAMINE ug/l. 1 103.90 103.90 10 1 10.0 275 2 0.7  4C P-CHLORO-M-CRESOL.  4ug/l. 1 104.70 104.70 10 1 10.0 275 1 0.4  5 2-CHLORO-M-CRESOL.  4ug/l. 1 30.50 30.50 10 1 10.0 275 1 0.4  FENTACHLORO-MENOI.  4ug/l. 1 118.40 118.40 10 1 10.0 275 1 0.4  CLDES,HERBICIDES,PCBS  2.4-DICHLORO-PHINOXYACT-TICACID 1.4 3 0.11 1.50 1.0 10 1.0 10.0 1.0 1.0 1.0 1.0 1.0 1.	MNND	N-NTIROSO-DI-PHENYLAMINE	WeA.		121.60	121.60	10		10.0	275	-	0.4	20.0	\$0.5	274	35 1	4,0
AC         P.CHLORO-M-CRESOL         ug/L         1         104.70         10         1         10.0         275         1         0.4           2         2.CALIOROPHISOL         ug/L         1         33.20         10         1         10.0         275         1         0.4           2.4.5.TRICHIOROPHISOL         ug/L         1         118.40         10         1         10.0         275         1         0.4           CIDES, HER BICIDES, PCBS         CIDES, HER BICIDES, PCBS	ANNE	N-NITROSO-DI-NPROPYLAMINE	wen.		03.90	103.90	10		10.0	275	. ~	0.7	677	00%	261	1.33	13
2.4.6-TRICHLOROPHENOL. ug/l. 0 32.20 32.20 10 1 10.0 275 1 0.4 2.4.6-TRICHLOROPHENOL. ug/l. 1 30.50 30.50 10 1 10.0 275 1 0.4 H PENTACHLOROPHENOL. ug/l. 1 118.40 118.40 10 1 10.0 275 5 1.8 CIDES, HERBICIDES, PCBS	APCMC	P-CHLORO-M-CRESOL	ug/l.	-	104.70	104.70	10	-	10.0	275	-	0.4	15.46	12 50	1 96	92	2.5
2,4,6-TRICHLOROPHIENOI, ug/l. 1 30,50 30,50 10 1 10,0 275 1 0,4  H PENTACHLOROPHENOI, ug/l. 1 118,40 118,40 10 1 10,0 275 5 1.8  CIDES, HERBICIDES, PCBS  2,4-DICHLOROPHENOXY ACTIFICACID 12,4 3 011 130 10 10 10 10 10 10 10 10 10 10 10 10 10	30010	2-CHLOROPHENOL.			32.20	32.20	10	-	10.0	27.5	-	0.4	13.74	12 43	1.36	1 26	22
H PHATACHLOROPHENOI. ug/l. 1 118.40 118.40 10 1 10.0 275 5 1.8 CIDES, HERBICIDES, PCBS 24-DICHLOROPHENOXYA GCTP 1.47 3 011 1.50 10 10 10 10 10 10 10 10 10 10 10 10 10	3246	2,4,6-TRICHLOROPHENOL	ug/	_	30.50	30.50	10	-	10.0	275	-	0.4	13.67	12.53	1.33	1 26	27
CIDES, HER BICIDES, PCBS 24-DICH OROPHENOXYA G: TICA GID 1:20 10 10 10 10 10 10 10 10 10 10 10 10 10	зьсрн	PENTACHI OROPHENOL.	ug/l	_	118.40	118.40	10	-	10.0	275	8	1.8	15.65	12.94	2.04	1.42	10.8
CIDES, HERBICIDES, PCBS  24-DICH OROMINOXYAC: TICACID 1647 3 011 1:30 10 10 100 002 002 001																	
24-DICH OROPHINOXYACHTC ACID 114 1 011 1 1 0 1 1 1 1 0 1 1 1 0 1 1 1 0 1 1 0 1	ESTICIDES	HERBICIDES, PCBS															
24-DICH OROPHINOXYACTIF ACID Had 3 DIT 130 10 10 100 100 100 100 100 100 100 1	4																
G GAMMA-BLOKEVICH HISTORY 1 10 10 10 10 10 11 11 11 11 11 11 11 1	BHCG	24-DICHLOROPHENOXYACETIC ACID	No.	e c	0.0	1.20	0 9	10	100.0	276	214	77.5	0.35	0.13	2.16	3.72	100.0
A.A.PHA-BECTEUR/CHURACULUS AND 1 003 0.10 10 7 70.0 276 143 5.1.8	BHCA	ALPHA-BHCHEXCH ORCYCLESXANE)	ne.	7	0.04	010	0 0	- 4	0.07	276	143	51.8	0.06	0.02	5.63	2.29	9.76

		PLANT NAME : Guelph PLANT TYPE : Tertlary	NAME	PLANT NAME : Guelph PLANT TYPE : Tertlar	ph						SA	SAMPLING TYPE: Secondary E SAMPLE FORM: Wet Weight	FYPE : Se	SAMPLING TYPE : Secondary Effluent SAMPLE FORM : Wet Weight	Muent			
CONTAM.	CONTAMINANT NAME	CODE		STD. FOR STD. REF. SURFACE WATER	TD. REF.	PLANT PLANT MIN. CONG. MAX. DET. > DL CONG.		PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET.	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
CONVENTIONALS	NALS																	
BODS COD DOC NNITTR NNO2TR NNOTR NNTKUR PHUT RSP	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLIVED ROCANIC CARBON AMMONIUM, TOTAL FILT REAC. NITRITELLI. REACT. NITRATES, TOTAL, FILT REAC. NITRATES, TOTAL, FILT REAC. HITROGEN-TOTALEL, UNF. TOT (-LOCKHH-CONCN) PHOSPHORUS, UNPILT, TOTAL RESIDUE, PARTICAL ATB		00000000			6.40 46.00 6.60 9.10 9.10 8.80 6.80 5.30	67.80 194.00 9.40 5.75 0.69 13.40 16.80 8.18 5.30 45.00	*****		100.0 100.0 100.0 100.0 100.0 100.0 100.0	213 213 220 220 220 224 224 224 224 220	211 220 220 204 194 186 222 224 224 206 219	99.1 99.1 100.0 91.5 88.2 83.0 100.0 97.6 99.6	26.40 87.04 8.03 4.52 0.40 11.93 7.08 7.36 0.74	21.22 52.80 8.09 3.90 0.22 2.33 7.97 7.10 0.68	241 1.83 1.16 1.19 1.40 1.41 1.41 2.81 2.39	207 1.83 1.60 6.98 5.98 7.78 2.71 1.97 2.00 2.00	100.0 100.0 100.0 100.0 86.4 100.0 100.0 100.0 100.0
METALS ALUT INGUT SRUT ZRUT ZRUT ZRUT CRUT CRUT CRUT CRUT CRUT CRUT CRUT C	MERCURY, UNFILT. TOTAL STRONTIUM, UNFILT. TOTAL ZINC, UNFILT. TOTAL ZINC, UNFILT. TOTAL ZINC, UNFILT. TOTAL CREOMIUM, UNFILT. TOTAL CREOMIUM, UNFILT. TOTAL CYANIDE JREE, UNFILT. TOTAL CYANIDE JREE, UNFILT. TOTAL COPPIR, UNFILT. TOTAL COPPIR, UNFILT. TOTAL COBALT, UNFILT. TOTAL MOLY BEENUM, UNFILT. TOTAL	<u> </u>	60000000	75.00 6.20 9.20 9.00 9.00 9.00 5.00 5.00 7.00 5.00 7.00 8.00 8.00 8.00 8.00 8.00 8.00 8	ONT-MOR ONT-MOR ONT-MOR ONT-MOR ONT-MOR ONT-MOR ONT-MOR	370.00 0.04 1000.00 440.00 0.000 10.00 10.00 10.00 10.00	3700,00 0,36 1370,00 1400,00 10,00 10,00 80,00 20,00 10,00	= 6 = = = 6 = 7 = =	: # : : : : : : : : : : : : : : : : : :	100.0 100.0 100.0 100.0 100.0 80.9 80.9 80.9 80.9 90.9 90.9 90.9	264 233 267 267 267 267 222 267 47 47 67	196 220 267 267 263 65 137 171 171 171 171 171 171 171 171 171	74.2 94.4 100.0 96.1 96.1 96.3 96.3 96.6 96.0 66.0 68.0	780.00 0.10 11.60.00 700.00 10.00 20.00 20.00 20.00 20.00 10.00	101.70 0.03 340.50 83.30 2.10 9.00 1.30 1.30 1.31 1.31 1.31 1.31 1.31 1	2.15 2.23 1.11 1.138 1.28 2.71 2.28 7.77 7.77	3.72 2.64 2.14 2.00 2.00 2.00 3.68 3.68 3.68 1.54	96.4 100.0 100.0 100.0 100.0 100.0 89.3 46.4 85.3 85.1 82.1 67.9
PM24DP 2 PM24DP 2 PM24DT 2 PM24DP 2 PM44DP 2 PM45DP 2 PM82EM E PM82EM E PM8	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS PMAJDP 24-DIGHLOROPHENOL PMAJDP 24-DINITROTOLLUBNE PMASDT 24-DINITROTOLLUBNE PMASDT 24-DINITROTOLLUBNE PMASDP PMASDP 2-MITROPHENOL PMADP 4-NITROPHENOL PMADP PMBADP BIS-2-COHLOROMETHYN-JETHUR ULL PMANNP N-NITROSO-DI-NROPYLAMINE PMBANP PNBACM PNBA			0.00 0.00 0.00 N 0.00 N 0.00 N 0.00 0.00 N 0.00 0.00 N 0.00 0	NYS-GUI, NYS-GUI, NYS-GUI, NYS-GUI, NYS-GUI, NYS-GUI, NYS-GUI, NYS-GUI, ONT-MOB	28.80 22.90 26.80 26.80 143.70 20.80 30.66 43.60 15.20 28.40 29.20 5.10 5.10 5.10	28.80 23.90 26.80 26.80 143.70 20.80 30.66 43.66 43.60 115.20 23.40 23.40 53.10 53.10		or o	10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0	223 223 223 227 223 228 228 228 228 228 228 228 228 228		444444444444	3.19 1.98 2.00 2.00 3.73 3.09 1.40 1.33 2.29 1.40 1.33 2.62 2.62 2.65 2.65 3.43	268 1.61 1.61 1.61 2.70 2.70 2.68 1.08 1.09 1.07 1.07 1.07	2.17 2.46 2.46 2.16 3.02 3.02 3.02 3.02 2.49 2.24 1.51 1.51 1.51	15.2 15.3 15.6 15.6 15.6 15.6 15.6 15.6 15.6 15.6	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
PIBHCG C	GAMMA-BHCGHEXCHLORCYCL JHEXANE) 24-DICHLOROPHENOX YACETIC ACID METHOX YCHLOR	333	135	0.00	ONT-MOB ONT-MOB	0.02	0.79 0.54 3.30	0 0 0	0 10 8	100.0 100.0 50.0	227 227 227	157	69.2 78.0 13.7	0.06 0.16 0.12	0.02	2.67 2.37 8.03	2.48 4.71 2.72	96.4 100.0 35.7

	GLOBAL
	GLOBAL GLOBAL
	PLANT
fluent	GLOBAL
ondary Ef	PLANT (
SAMPLING TYPE : Secondary Effluent SAMPLE FORM : Wet Weight	
LING TY	GLOBAL GLOBAL GLOBAL
SAMP	DBAL GL
	F PLANT
	PLANT
	PLANT
	PLANT
	PLANT PLANT
- 1	TD. REF.
Guelph	FOR ST
AME :	STD.
PLANT NAME : Guelph PLANT TYPE : Terdary	UNITS QC STD. FOR STD. REF.
	NAME
	CONTAMINANT NAME
	CON

GLOBAL & PREV.	32.1 21.4 14.3 28.6	32.1		BBDa(i)
GLOBAL G SPREAD 9 FACTOR	244 138 124 140	1.93 1.86 2.18		
PLANT SPREAD FACTOR	2.58 3.22 1.79 2.34	3.46 2.66 1.86		10/12/01
GLOBAL GEO. MEAN	0.01 0.01 0.02	1.18		REM
PLANT GEO. MEAN	0.01 0.01 0.03	2.09 1.67 1.33		
GLOBAL % FREQ. DET.	15.9 4.0 4.0 4.0	8.0 8.0 16.5		- 1410-400
GLOBAL # DET.	% e & e	31 28 25		19230
GLOBAL # SAMPLES	22.22.22	77.77		
FLANT F FREQ. DET.	8 80.0 0.08 4 0.00 0.00	40.0 20.0 .0		
PLANT # DET.	N M M M	4 m W		
PLANT #	2222	999	7000000	
MANT AX. DET. CONC.	0.04	49.00 19.00 5.50		
MIN. CONC. MAX. DET. > DL CONC.	0.02 0.04 0.02 0.13	2.50 3.20 3.20		
STD. REF.	ONT-MOE ONT-MOE ONT-MOE	NYS-GUL NYS-GUL NYS-STD		
UNITS QC STD. FOR STD. REF. CODE SURFACE MATER	0.50 0.00 0.00	0.70 50.00 0.20		
CODE	8 H H 8	pri pri pri		
TAN .	3333	355		
CONTAMINANT NAME	PESTICIDES, HERBICIDES, PCBS  X2124 1,24-TRICHLOROBENZENE PIBHCB BETA-BHC (HEXCHLORCYCLJEXANE) PIBHCA ALPHA-BHC(HEXCHLORCYCLJEXANE) PIPCBT PCB, TOTAL	VOLATILES ORGANIC COMPOUNDS  XITETR TETRACHLOROETHANE  XILLIT 1,1,1-TRICHLOROETHANE  XICHLO CHLOROFORM		
	1,24-BETA ALPH PCB,	TETR 1,1,1-1		
CONTAM- INANT	PESTICID X2124 PIBHCB PIBHCA PIBHCA PIPCBT	VOLATILI XITER XIIIT XICHLO		

PLANT NAME : Guelph PLANT TYPE : Tertlary

SAMPLING TYPE: Terdary Effuent SAMPLE FORM: Wet Weight

INANT	CONTAM: CONTAMINANT NAME	UNITS QC	OC ODE MI	CODE MIN, CONC. N	PLANT MAX. DET. CONC.	PLANT # SAMPLES	FLANT # DET.	FLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GEO. GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.
CONVENTIONALS	ONALS															
8008	BOD, 5 DAY -TOTAL DEMAND	meA.	0	16.00	56.40	6	٠	100.0	6	٠	100.0	24.64	24.64	1.48	1.48	1000
COD	CHEMICAL OXYGEN DEMAND	II S	0	46.00	282.00	6		100.0	0.0	0.0	0.001	99.25	99.25	1.80	1.80	100.0
NNITTER	DISSOLVED ORGANIC CARBON AMMONIUM TOTAL, FILT REAC.	me A	00	16.60	20.80		n 01	100.0	<b>.</b> .	2 0	100.0	18.24	18.24	1.08	1.08	100.0
NNTKUR	NITROGEN-TOT-KJEL, UNP. TOT	I S	0	19.80	34.00	6	•	100.0		. 6	0.001	23.22	23.22	1.17	1.17	100.0
PH	(-LOCKH+(CONCN)) PHOSPHORIS INFIL TTOTAL	me/l.	00	6.82	7.49	ø 0	6 0	0.001	6 0	e 0	100.0	7.10	7.10	1.04	10.0	100.0
RSP	RESIDUE, PARTICULATE	meA	0	17.10	71.80		2 30	100.0	00	9 00	100.0	32.21	32.21	1.74	1.74	1000
NNO2FR NNOTFR	NITRETE FULT. REACT. NITRATES, TOTAL, PULT, REAC.	Z Z	0 0	0.03	0.15	• •	as vn	55.6	99	80 V7	88.9 55.6	0.05	0.05	3.45	3.45	0.001
METALS																
ALUT	ALUMINUM, UNITET TOTAL	ug.	0	260.00	2900.00	11	11	100.0	11	11	100.0	1250.00	1252.00	1.88	1.88	100.0
CRUT	CHROMIUM, UNFILT. TOTAL	ne.	0	30.00	270.00	= "	= '	100.0	= '	11	100.0	70.00	08.80	1.84	1.84	100.0
HOLI	MERCURY UNTIL TOTAL	2	00	00.00	0.39	N 0	7 0	100.0	N 0	~ •	1000	90.00	X 80	1.73	3.03	0.00
SRUT	STRONTIUM, UNITELT TOTAL.	2	0	00066	1400.00	`=	` =	100.0	=	11	100.0	1170.00	1170.70	111	1.11	100.0
FINZ	ZINC,UNHI, T.TOTAL	No.	0	650.00	1600.00	= 4	= "	100.0	= '	1	100.0	960.00	959.60	130	1.30	100.0
CONTOR	CADMIDE-FREE, ONFILL MEAC.	ne A	0 0	10.00	30.00	À :		8.77	À :	- "	77.3	00.01	14.00	4.19	4.19	0.001
COUT	COBALT, UNTIL T. TOTAL.	3	. 0	10.00	70.00	: =		27.3	=	n en	27.3	10.00	9.00	2.75	2.75	1000
PHUT	LEAD, UNITET TOTAL	ug.A.	0	110.00	130.00	11	2	18.2	11	2	18.2	00:09	55.90	1.50	1.50	100.0
MOUT	MOLYBDENUM UNFILTTOTAL	12 2 Z	00	10:00	40.00	= =			==	-	6.6	00.01	09.9	2.02	2.02	100.0
NICT	NICKEL, UNPILT, TOTAL	Les.	0	40.00	40.00	=	-	9.1	=	ont	9.1	30.00	25.80	1.12	1.12	0.001
BASENEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	NDS														
PM24MP	2,4-DIMETHYLPHENOL	ues.	2	5.60	7.50	10	3	30.0	10	3	30.0	3.40	3.40	1.57	1.57	100.0
PMPHEN	24-DICH OBOBIENOI	ugh.	7 -	3.40	0 00	0 9	m -	30.0	0 9	e -	30.0	1.99	1.99	1.59	1.59	100.0
PM24DT	24-DINITROTOLUENE	2		5.30	5.30	10		10.0	01		10.0	1.70	1.70	1.49	1.49	100.0
PM26DT	2,6-DINITROTOLUENE	Leg.		7.70	7.70	0 9		10.0	01	~	10.0	1.77	1.77	1.68	1.68	100.0
PM46DP	2-MEDIYA 6-DINITROPHENOL	500	2	00.00	20.00	2 9		0.01	0 0	~ -	0.01	2.73	2.73	1.32	1.32	0.001
PMB2HM	BIS(2-CHLORETHOXY)METHANE	Les.		14.80	14.80	2 9		10.0	2 2		10.0	1.31	1.31	2.34	234	100.0
PMB2NE	BIS-(2-CHLOROMETHYL),ETHER	18/J.	2	12.70	12.70	01	-	10.0	10	-	10.0	1.86	1.86	1.97	1.97	100.0
PMNNP	N-NETROSO-DI-NPROPYI AMINE	ug/		3.30	3.30	0 0	<b>-</b> -	10.0	0 0		10.0	1.13	1.13	1.46	1.46	100.0
PNBAA	BENZO(A)ANTHRACENE	ug/		12.60	12.60	200		10.0	2 0		0.01	1.29	20	2 23	2 23	100.0
PNBKF	BENZOCKJELUORANTHENE	ug.	-	4.60	4.60	10	-	10.0	10	-	0.01	1.16	1.16	1.62	1.62	100.0
X3PCPH	PYRENE PENTACHE OROPHENOL	No.		12.00	12.00	9 9		10.0	9 9		0.01	1.85	1.85	1.93	1.93	0.001
				25:17	00:19	2	-	10.0	2	-	10.0	3.10	3.10	1.31	1.97	1000
PESTICIDE	PESTICIDES, HERBICIDES, PCBS															
P1BHCG P1BHCB	2,4-DIGHLOROMIENOXYAGTIC ACID GAMMA-BIRCHEXCHLORCYCLIBIXANE) BETA-BIRC (HEXCHLORCYCLIBIXANE)	555	E 22 ~	0.03	0.67 0.75 0.17	222	<b>0. 18</b> M	90.0 30.0	222	<b>∞</b> ∞ ∾	80.0 30.0	0.02	0.04	3.37	3.37	0.001
PIDMDT	METHOXYCHLOR	ne.	-	0.20	0.26	10	2	20.0	10	2	20.0	0.07	0.07	1.90	1.90	0.001

PLANT NAME: Guelph PLANT TYPE: Tertlary

SAMPLING TYPE: Tertiary Effluent SAMPLE FORM: Wet Weight

GLOBAL S. PREV.	0.000 0
GLOBAL SPREAD FACTOR	134 1.66 1.66 1.66 2.17 2.17 2.19 1.91 1.86 2.05
PLANT SPREAD FACTOR	134 1.66 1.66 1.66 1.66 1.09 1.91 1.91 1.91 1.90 1.00 1.00 1.00
GLOBAL GEO. MEAN	0.00 0.00 0.00 2.30 1.42 1.28 1.10 1.17 1.17
PLANT GEO. MEAN	0.00 0.00 0.00 0.00 1.42 1.28 1.10 1.10
GLOBAL % FREQ. DET.	100 100 100 100 100 100 100 100 100 100
GLOBAL # DET	0 <b>0</b> +00
GLOBAL # SAMPLES	0000
PLANT % FREQ. DET. S	20.0 110.0 20.0 20.0 20.0 10.0 10.0 10.0
PLANT # DET.	0 ×+00
PLANT # SAMPLES	9999 9999999
PLANT MAX. DET. CONC. S.	0.10 0.05 0.16 0.05 50.00 75.00 14.00 14.00 12.00 5.00 9.70
QC PLANT CODE MIN, CONC. M	0.10 0.05 0.16 0.05 0.05 3.20 6.10 17.00 17.00 5.00 9.70
UNITS QC CODE MI	4242 242242 8888
Nn	
CONTAMINANT NAME	PSSLY
CONTAM-	PESTICIDE PSILV PIENDR PIECBT X2124 X2124 X2124 X1111 X10110 X1010 X10016 X11107 X10107 X10107 X10107 X10107 X10107 X1107 X1107 X1107 X1107 X1107 X1107 X1107

	GLOBAL & PREV.		85.3 100.0 100.0 100.0 100.0 100.0		84.4 100.0 97.1 90.0 97.1 100.0 100.0 100.0 100.0 100.0 100.0	5.9 85.3	86 8.	441. 79.4. 135.3. 67.7. 67.7. 67.7. 82.9. 41.2. 41.2.
	GLOBAL SPRKAD FACTOR		3.19 4.59 2.21 2.28 1.10 3.54 4.43 1.81 1.77		261 251 201 201 203 368 1.72 1.67 2.86 2.20 2.20 2.20 2.20 2.20 2.20 2.20 2.2	3.02	3.6	5.13 2.74 2.74 2.28 2.62 2.62 2.91 6.96
	PLANT SPREAD FACTOR		1.02 1.04 1.29 198.73 1.02 7.73.45 1.09		0.00 1.00 1.13 1.13 1.13 1.13 1.13 1.13	13.37	80.67	13.80 1.63 6.21 2.08 2.36 2.36 6.68 3.63 3.63 3.63 3.63 3.63
ludge	GLOBAL GEO. MEAN		892221.45 5911.32 25.44 36897.85 6.03 82.34 20347.70 32783.51 20803.05		30.17 9835.74 6.13 9.74 30.1.43 660.31 2.23 5.80 173.99 173.99 3.04 231.70 905.39	3464.00	8.50	45.80 8.50 8.50 8.90 6.00 7.30 93.20 93.20
E : Raw Sludge : Dry Weight	PLANT GEO. MEAN		1254923.64 12267.59 20.04 1046.68 5.87 153.90 246.25 42726.92 24909.86		20.60 3028333 3.51 90.70 143.73 741.73 544 45.3 44.92 301.26 166 587.00 6848.98	15524 80 45050.00	19.30	317.40 171.80 9 10 10.20 3.70 4.00 8.40 8.50 25.90 26.60
SAMPLING TYPE SAMPLE FORM	GLOBAL % FREQ. DET.		100.0 97.9 89.6 100.0 100.0 100.0 100.0		88 9 100.0 98.0 98.0 98.0 100.0 100.0 62.2 98.7 98.0 100.0 100.0	3.9	20.0	25 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
SAMPL	GLOBAL		25525525		5 2 8 5 8 6 8 2 4 4 4 2 2 8 8	4 5 5	25	1 2 2 2 2 2 4 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
	GLOBAL.		5 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		2 2 2 2 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 2	90	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
	PLANT FREQ.		100.0 100.0 100.0 100.0 100.0 100.0 100.0			50.0	50.0	500.0 500.0
	PLANT # DET.		~~~~~~				-	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
	PLANT # SAMPLES		~~~~~~			2 2	7	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
	PLANT MAX. DEF. CONC.		1269315.67 1258278 34.74 44150.11 5.97 207.51 27152.32 45340.00		20.60 31.265.51 3.72 1.09.49 1480.57 843.67 0.70 5.52 54.09 333.11 2.48 595.53 8833.75	97130 20	309.10	2030.90 242.80 33.10 47.10 6.20 7.40 32.30 13.60 1 28.00
: Guelph : Secondary	UNITSQA/QC: PLANT PI (DRY CODE MIN. CONG. MA (RIGHT) > DL C		1240694.79 11960.30 24.28 24.81 8.78 114.14 2.23 40300.00		2933201 331 7514 13858 65210 442 372 373 373 373 57859 531015	97130.20 612903.20	309.10	49.60 121.60 33.10 47.10 6.20 7.40 32.30 1.360 1.2600
Gue	QA/Q		00000000		0000000000000		-	
ME ::	UNITSQ (DRY C) WEIGHT)					UNDS	\$	
PLANT NAME: Gueph PLANT TYPE: Second	CONTAM: CONTAMINANT NAME: WINANT	TONALS	CHEMICAL, OX YGEN DEMAND AMMONIUM, TOTAL, FILT REAC. NITRATIS, TOTAL, FILT REAC. NITRATIS, TOTAL, FILT REAC. (LAZZH (CONCEN)) PHONG ICS (AAAP) PHONG ICS (AAAP) PHOSPHORUS, UNFILT TOTAL. RESIDUE, TOTAL.		SHIVER JUNEULTTOTAL ARLUMINUMUNEULTOTAL ARSENICLUMEULTOTAL CONSMIUM JUNEULTOTAL CORRAGUM JUNEULTOTAL CORRAGUM JUNEULTOTAL MAGACIAR YLJUMEULTOTAL ZINCJUMEULTOTAL ZINCJUMEULTOTAL	RASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS WHELE RISE CHLOROPROPYLJETHER UDA WANCRE M.CRESOL.	DIOXINS AND FURANS 99CDD OCTACHLORODIBENZODIOXIN PESTICIDES,HERRICIDES,PCBS	METHOXYCHLOR  PCB, TOTAL  BULBAR  BULBAR  BULBAR  BULBAR  GAMMA BICCHEXCHI ORCYCLHEXANE)  BULBAR  ALPHA CHEORDANE  BULBAR  BULBAR  BULBAR  PEDDE  BULBAR  BULB
	CONTAM.	CONVENTIONALS	COD NNIHTR NNOTTR PII PII PHINOI. PHYTE RST RST	METALS	AGUT ASUT CRUT CRUT CRUT CRUT CRUT CRUT CRUT CR	BASE NEU PMBZIE PMMCRE	DIOXINS A P98CDD PESTICID	PIDMOT PIPCHT PIHICA PICHA PICHA PICHA PICHA PICHA PICHA PICHA PICHA PICHA PICHA PICHA VILA

PLANT NAME: Guelph PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight

- 11	1461
GLOBAL % PREV.	26.5 41.2 23.5 35.3 2.9
GLOBAL SPREAD FACTOR	2.66 3.86 2.31 4.24 1.91 2.00
PLANT SPREAD FACTOR	17.27 27.19 7.26 7.20 4.73
GLOBAL GEO. MEAN	890.70 1345.90 1345.90 1225.10 635.50 643.70
PLANT GEO. MEAN	3309.90 4562.40 1842.90 1782.40 1323.90
GLOBAL. % FREQ. DET.	19.6 31.4 15.7 23.5 2.0
GLOBAL,	0982
GLOBAL # SAMPLES	222222
PLANT % FREQ. DET.	\$6.0 \$6.0 \$6.0 \$6.0
PLANT	
PLANT # SAMPLES	00000
PLANT MAX. DET. CONC.	24813.90 47146.40 7692.30 7196.00 3970.20
UNITSQA/QC PLANT (DRY CODEMIN. CONC. EIGHT) > DL	24813.90 47146.40 7692.30 7196.00 3970.20 7692.30
UNITSQA/QC PLANT (DRY CODEMIN. CON WEIGHT) > DL	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
CONTAM: CONTAMINANT NAME	VOLATILE ORGANIC COMPOUNDS  DEBNZ  ZAMPX  A, AND P-X YIENES  ZANYA,  OXYLENE (CRHO)  CHOROPORM (CICL3)  CHOROPORM (CICL3)  CHOROPORM (CICL3)  CHOROPORM (CICL3)
CONTAM. C	VOIATILE OR  BAEBNZ FT BAZNYI, O. XIGHLO XZ13CB 1,3 XZ14CB 1,4

JUNEAU DE LA CONTRACTOR DE LA CONTRACTOR

PLANT NAME: Guelph PLANT TYPE: Secondary

SAMPLING TYPE: Treated Studge SAMPLE FORM: Dry Weight

	WEIGHT)	(DRY CODE MIN. CONC. M VEIGITT) > DL	CONC.	SAMPLES	DET.	A FIREQ.	SAMFLES	- Ind	% FREQ. DET.	GEO. MEAN	GEO.	SPREAD FACTOR	SPREAD	* PREV.
CHEMICAL OXYGEN DEMAND NITROGEN TOT KIE, UNP TOT (4.0X(H)(CONCN)) PHENOL (S. (4AAP) PHENOL (S. (4AAP) PHENOL (S. (1AAP) RESHORE, UNPILITOTAL	THE E	970873.79 22299.99 7.00 6.80 34730.00	970873.79 26399.99 7.40 109.20 734320.00 206000.00	- 0 0 0 0 0	- ~ ~ ~ ~ ~	0.001	8 4 4 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 4 4 4 8 8 8 4 4 4 8 8	100.0 100.0 100.0 83.7 100.0	970873.79 24263.55 7.20 27.24 159696.38	\$08097.94 38494.12 7.17 43.05 76638.67 80434.04	0.00 1.13 1.04 7.12 8.65	4.65 1.09 3.14 6.91	100.0 100.0 100.0 100.0
RESIDUE, TOT LOSS ON IGNI.			11 2888.00	~	14	100.0	20	08	100.0	102990.08	43379.33	*	3.19	100.0
HOUR T TOTAL	o de	27.30	27 10	-	-	0001	4	*	0001	27.10	27.72	80	2.13	900
ALUMINUM, UNITET TOTAL.	mg/kg 0	3777.86	45977.01	- 7	- 6	100.0	20 \$	20 \$	100.0	13179.34	10715.94	5.85	2.82	1000
ARSENIC, UNPIL: TOTAL		4.37	5.17	~	~	100.0	20	49	0.86	4.75	5.40	1.13	508	97.1
COBALT UNFILL TOTAL	me/ke 0	10.34	10.34	7 -	7	100.0	39	32	82.1	10.34	9.14	0.00	2.75	85.7
CHROMIUM, UNFILT TOTAL		210.10	2126.44	2	2	0.001	50	20	100.0	668.40	333.06	5.14	3.59	100.0
COMPER, UNFILL TOTAL		110.87	977.01	7	2	100.0	4.5	45	100.0	329.13	732.24	4.66	2.16	100.0
MERCURY, UNEIL LOTAL	mg/kg 0	1.17	10.34	7 -	7 -	0.000	34	23	0.8%	8.96	5.24	77.0	2.04	1.76
NICKEL UNTIL TOTAL		6.26	57.47	. 7	٠ ٨	100.0	4.5	42	93.3	18.97	72.95	4.79	2.95	0.06
LEAD, UNHILL TOTAL.		49.76	333.33	7	7	100.0	50	49	0 96	128.79	196.62	3.84	2.46	97.1
SELENREM,UNFILTTOTAL.		2.43	2.87	7	7	0.001	50	48	0.96	2.64	2.67	1.13	2.98	1.79
ZINC, UNFILT. FOFAL.	HEAR O	625.97	9310.34	7 7	7 71	100.0	20 00	20 00	100.0	2414.13	988.90	6.75	2.57	100.0
BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SONO													
BUTYLBENZYLHTHALATB N-NITROSO-DI-NPROPYLAMINE	ug/kg 1	7281.60	32183.90	2.2	2 -	\$0.0	50	<b>*</b> -	160	15308.50	1916 90	2.86	5.23	17.7
OCTACH ORODIBENZODIOXIN	ug/kg i	3.80	3.80	2	-	\$0.0	4	92	53.1	6.10	7.10	1.9	3.84	7.39
PESTICIDES, HERBICIDES, PCBS														
	ug/kg 2	278.50	418.50	2	7	0.001	90	32	20 3	341.40	114 10	1.33	4 58	67.7
ALPHA BHÇÜLEXCHLORCYCLIEXANE) ALPHA CHLORDANE	ue/kg 1	21.50	21.50	7 7		20.0	20 00	77	44.0	9.50	6.50	2.55	2.41	55.9
GAMMA CHLORDANH	ug/kg 1	20 30	20.30	7	_	80.0	20	21	42.0	10.00	6.80	2.73	2.58	52.9
DRI DRIN		384.20	384.20	، م		0.00	0 00	5 5	0 0 0	43.40	0.50	\$ 22	3.51	38.2
	ug/xg	OK 167	08.162	7 0		0.00	000	2 40	12.0	17.80	4.90	6.17	2.96	89.
		27.50	27.50	. ~		20.0	50	7	14.0	11.60	470	3.39	2.67	20.6
		23.00	23.00	2	-	90.0	50	8	0.01	10 60	4.20	2.98	2.36	14.7
ENDOSCILAN SCILAIATE		103 20	103.20	7 (		20.0	50	9 9	12.0	44.70	17.50	3.26	2.53	7.71
HELLACH OR EPOXIDE	7 8 x/8 n	0778	07.787	7	-	200	20	01	010	20.00	07 6	13.13	700.7	5.53

PLANT NAME: Guelph PLANT TYPE: Secondary

SAMPLING TYPE: Treated Sludge SAMPLE FORM: Dry Weight

CONTAM- INANT	CONTAM: CONTAMINANT NAME.	UNITSQA/Q (DRY CODI WEIGHT)	UNITSQA/QC PLANT (DRY CODE MIN. CONC. EIGHT) > DL	PLANT MAX. DEF. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT S FREQ.	GLOBAL.	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.	
PIPPDE	PP-DDE HEXACHLOROCYCLOPENTADIENE	ug/kg 1	22.80	22.80	200		50.0	8 8 8	¥. 80 £	0.80	10.60	34.20	3.99	2.72 2.76	23.5	1
X2124	1,24-TRICHLOROBENZENE	ug/kg 3	306.30	306.30	,	-	30.0	20	77	<b>‡</b>	ne:#c	08.41		20.0	35.3	
VOLATIL	VOLATILE ORGANIC COMPOUNDS															
RAHRAZ	FINAL RENZEND (CRITIO)	neke 1	09'96'89	099689	5	-	90.0	. 08	7	28.0	818.30	606.50	20.38	5.59	32.4	
B2MPXY	M. AND P-XYLENES	ug/kg 1	14942.50	14942.50	2	-	50.0	90	15	30.0	1204.50	816.00	35.20	7.11	32.4	
BZOXYL	O.XYI.ENE (CSH10)	ug/kg 1	3046.00	3046.00	2	-	90.0	20	14	28.0	543.80	523.50	11.43	4.05	32.4	
XICH O	CHI.OROPORM (CHCI.3)	ug/kg l	1666.70	1666.70	2	_	90.0	90	12	24.0	402.30	441.70	7.46	4.33	35.3	
X214CR	1 4-DICTH OROBENZINE	ue/kg 1	2643.70	2643.70	2	_	90.0	20	2	4.0	806.70	272.70	10.34	3.28	5.9	

A-6-20

# Sub-Appendix A-7

## Hamilton (Woodward) WPCP

### Contents:

- o Plant Schematic with Design Characteristics
  - o Annual Data Review (1981 1986 Plant Performance)
  - O Sources of Municipal Water Pollution Control Plant Raw Sewage
  - O Operational Evaluation for Hamilton (Woodward) WPCP
  - o Analytical Data

WOODWARD AVE. WPCP Conventional Activated Sludge Phosphorus Removal Without Chem. Capacity - 489.14 18(3) m3/day

PARAMETER	1981	1982	1983	1984	1985	5 YEAR AVERAGE 81-85
Avg. Daily Flow (1888 m3/day)	264.12	298.84	287.76	323.48	388.26	294.73
BODS - Influent (mg/L)	221.50	148.80	184.38	132.69	156.83	152.82
BOD5 - Effluent (mg/L) Annual BOD5 Significantly Different from Mean	17.48	11.28	15.00	19.29	23.35	17.25
Annual Average BOD5?	1.0.	1.0.	1.D.	1.0.	1.0.	
TSS - Influent (mg/L)	426.98	329.38	282.88	295.63	382.84	311.17
TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean	31.68	17.88	13.00	19.37	19.67	20.13
Annual Average TSS?	I.D.	I.D.	I.D.	1.0.	I.D.	1 9 9 8
Total P - Influent (ag/L)	7.38	6.48	6.48	6.54	10.91	7.51
Total P - Effluent (mg/L) Annual TP Significantly Different from Mean	2.24	1.15	1.18	1.27	1.31	1.41
Annual Average TP? TP in Compliance?	i I.D.	I.D.	1.D.	1.D.	I.D.	i N
	1	5 8	1	1	1	1

I.D. - Insufficient Data

# SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

# GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE	WOODWARD AVE. WPCP 120001504 CONVENTIONAL ACTIVATED SLUDGE PHOSPHORUS REMOVAL W/O CHEMICALS
DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	409.140 306.696 300000
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	10
COMMERCIAL SOURCES (%) (Population x 0.0757)	7
RESIDENTIAL SOURCES (%) (Population x 0.175)	17
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from industrial, commercial and residential sources)	N 65
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	608 306 56
DESCRIPTION OF THE TOP 5 INDUSTRIES (BASED ON WATER USE DATA)	S DISCHARGED TO THE WPCP

DESCRIPTION TO A CONTROL OF THE PARTY OF THE	SIC # OF COMPA	NIES
IRON AND STEEL	3300-3317	10
ELECTRICAL/ELECTRONIC CMPNT	3612-3690	17
METAL FINISHING	3411-3469	71
RUBBER MFG AND PROCESSING	3011-3069	5
COIL COATING	3479-3479	2

## HAMILTON WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: February 27, 1987 SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVG FLOW: 409,140 m3/d

11				PRE-SA	MPLING PER	100		!
2 1 1 1 1 1 3 1	PARAMETER	DAY 1 ;	DAY 2 1	DAY 3 :	DAY 4	DAY 5	DAY 6	
==						********		=======;
1 1		8	1	1	1		1	1
11	RAW SEWAGE FLOW	318,681 :	306,861	297,314	289,131	284,131	280,494	
11		77 77	75 444	70 (74)	70 (75)	10.4581	10 5181	10 70%
11	% of Design Flow	77.89%	75.00%	72.67%;	70.671	69.451	68.56%	
11	i		i	i	i	i	i	1
11		271.0 (						
11		111.0 ;						132.0
11			28.0 1					
11		59.0%;						
11	a ritariinti italia iia	90.87			95.4%			87.1%
11-	a SECONDAIN NEIDVAE							
11	Influent SS (mg/L)	514.0 1			953.0 1			
11		100.0 :			86.0 1			
11		12.0 :			8.0 1	9.0 ;		7.0 ;
1 1		80.5%			91.02:			94.5%
1 1	Z SECONDARY REMOVAL	97.7%	97.621	99.2%	99.211	98.871	99.1%:	99.41
11-							i	
11	Influent NH4 (mg/L)	1	1	1	1	8	1	
11	Primary NH4 (mg/L)	3	3 1	1	17.0 1	1	1	3
1 1	Secondary NH4 (mg/L)	1	1	1	18.0 1	1	2	Į.
8 8	1 PRIMARY REMOVAL	i	# 1	Į.	1 1	3 1	2 2	1
11	Z SECONDARY REMOVAL	1	1	1	ž t	2 3	1	2 8
11-		;		;				
11	Influent TKN (mg/L)	2	í	8	2	1	1	1
11	Primary TKN (mg/L)		1	1	1	1	1	1
8 9	Secondary TKN (mg/L)	ì		1	18.0 :		1	1
11	I PRIMARY REMOVAL		• •	1	3	;	;	3
11	% SECONDARY REMOVAL		1	i	i	i	i	;
11-	T-/3 T-4-1 D ///3	0.00	40.00.1	;	40.00.1	0.00	0.70	0.70
11	Influent Total P (mg/L)	8.00		8.80 :	10.80	9.00 :	9.30 :	9.30 :
11	Primary Total P (mg/L) Secondary Total P (mg/L)			0.60	0.70	0.70	1.30	0.70
11	% PRIMARY REMOVAL	0.80 1	1.00 i	V. 50 i	V./U i	V. /V i	1.50 ;	0.70 i
11	Z SECONDARY REMOVAL	90.02	92.21	93.2%	93.5%	92.2%	86.021	92.5%
8.8	E SECUNDANT REMOVAL	70.061	74.441	73.261			00.041	

### HAMILTON NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: February 27, 1987 SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVG FLOW: 409,140 m3/d

===:					**********			
				PRE-SA	MPLING PER	IOD		
11	PARAMETER	DAY 8 1		DAY 10		DAY 12		
11		1 1	1	;		;		1
11	RAW SENAGE FLOW	279,585 ;	278,221 1	290,495 1	290,950	283,676 ;	277,312 1	273,220 ;
11	% of Design Flow	68.33X	68.0021	71.00%	71.1171	69.33%	67.78%	66.78%;
11	& OF Design Flow	1 00.3341	00.0041	/1.0021	11.1121	97.3361	9/1/9/1	1
11	Influent 80D (mg/L)	258.0	336.0	337.0	200.0	271.0	180.0	181.0 ;
11	Primary BOD (mg/L)	1 122.0 1	158.0 1		64.0 !			
11	Secondary BOD (mg/L)	1 31.0 1	36.0 :	35.0 1				
11 -	Z PRIMARY REMOVAL	52.721	53.0%;					
11	% SECONDARY REMOVAL	88.02:	89.32:		97.5%		96.121	96.1%;
11	Influent SS (mg/L)	1119.0	619.0		528.0	,	468.0	
11	Primary SS (mg/L)	81.0 1	121.0 :	120.0 ;	79.0 :	77.0 1	87.0 1	95.0 :
11	Secondary SS (mg/L)	9.0 1	8.0 ;	9.0 1	8.0 ;	7.0 :	6.0 1	11.0 ;
1 1	% PRIMARY REMOVAL	92.8%	80.5%	78.0%	85.011	92.32:	81.4%	85.4%
11	% SECONDARY REMOVAL	99.2%	98.71:	98.4%	98.521	99.31	98.71	98.321
11	Influent NH4 (mg/L)	ii	;	; ;	;			
11	Primary NH4 (mg/L)	1	1	3 8	18.0 :	1	1	1 1
11	Secondary NH4 (mg/L)	1	:	*	16.0 ;		1	1
- 11	Z PRIMARY REMOVAL	1	1-1	1	1	2 2	1	1
11	7 SECONDARY REMOVAL	1	1	:	;	:	i	1
11	Influent TKN (mg/L)	;; ;				;	i	;
11	Primary TKN (mg/L)	1		1	1	1		1
11.	Secondary TKN (mg/L)	: :	1	1	17.0 1	1		1
11	I PRIMARY REMOVAL		1	1	1	1		1
11	% SECONDARY REMOVAL	1	;	:	1	1	1	1
11-								
11	Influent Total P (ag/L)	10.10 ;	9.30 :	9.60 :	9.00 :	12.20 1	9.90 :	9.00 1
11	Primary Total P (mg/L)	1 1	1	1	:	8	1	11
- 11	Secondary Total P (mg/L)	1 0.90 1	1.10 }	0.50 ;	0.50 ;	0.80 ;	0.80 :	1.00 {
11	% PRIMARY REMOVAL		;	1	1	1	1	
11	% SECONDARY REMOVAL	1 71.1%	88.2%	94.8%	94.4%		91.921	88.9%

### HAMILION NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: February 27, 1987 SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 409,140 m3/d

1 1				SAMP	LING PERIO	D	 
8		DAY 15 :					
		**********		***********			
2 2	RAW SEWAGE FLOW	280,484	283,676	276,857	275,493	249,126	1
1		1	1	1	1		2 2
2 2	I of Design Flow	68.55%	-	67.671	67.33%	60.892	1
2 2	Influent BOD (mg/L)	351.0 :	334.0 :				1
3	Primary BOD (ag/L)	63.0 1					1
3	Secondary BOD (mg/L)	7.0 :	8.0 :	4.0 :			1
1	Z PRIMARY REMOVAL	82.1%					2
1	% SECONDARY REMOVAL	98.0%	97.6%	98.6%		96.51	1
9 8	Influent SS (mg/L)	1027.0	1127.0	871.0 :			P 3
B .	Primary SS (mg/L)	104.0	95.0 :	96.0 :	88.0	94.0	1 2
1	Secondary SS (mg/L)	10.0	10.0 :	7.0 :	5.0	8.0	1
1	% PRIMARY REMOVAL	89.9%	91.67:	89.0%;	87.6%	83.82	2 2
3	I SECONDARY REMOVAL	99.021	99.12	99.21	99.32	98.62	1
-	Influent NH4 (mg/L)		;				1
1 2	Prisary NH4 (sg/L)	1	2 0	1	17.0 :		1
3	Secondary NH4 (mg/L)	1	1	:	16.0 :		1
2 2	Z PRIMARY REMOVAL	;	1	1	1		1
!-	% SECONDARY REMOVAL	!	1	:	8 8		1
1	Influent TKN (mg/L)				1		
1	Primary TKN (mg/L)	1	1	1	1		1
9	Secondary TKN (mg/L)	1 1	1	*	18.0		8
8	I PRIMARY REMOVAL	1	1 1	1	1		3 9
8	% SECONDARY REMOVAL	1 1	1	1	2		2 2
-		1					 
8	Influent Total P (mg/L)	9.50 1	11.70 :	11.70 :	10.20	7.40	1 1
1	Primary Total P (mg/L)	1 ;	1	3 1	2		2 2
8	Secondary Total P (mg/L)	1.00 :	0.70 :	0.40 1	0.50	0.70	1
:	% PRIMARY REMOVAL	1 1	1	1	1 1		1 2
	% SECONDARY REMOVAL	89.6%	94.0%;	96.6%	95.1%	90.5%	1

# HAMILTON WPCP

TREATMENT FACILITY: Secondary PERIOD ENDING: July 3, 1987
SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: 409,140 m3/d

11				PRE-SA	MPLING PER	100		1
11	PARAMETER	DAY 1		DAY 3			DAY 6	
11		1	:	1		1	1	
11	RAW SEWASE FLOW	282,312	290,041	291,859	282,767	286,404 ;	255,945	
!!	% of Design Flow	69.00%	70.892	71.332	69.11%	70.00%	62.56%	63.78%
 	Influent BOD (mg/L)	209.0	233.0	227.0			 	
11	Primary BDD (mg/L)	146.0 1	154.0 1	178.0 1	199.0 ;	161.0 1	;	1111111
11	Secondary BOD (mg/L)	60.0 1	58.0 1	60.0 :	58.0 1	62.0 1	1	THE PERSON NAMED IN
11	I PRIMARY REMOVAL	30.1%;	33.92:	21.6%	17.12:	37.82:	3 1	1
11	% SECONDARY REMOVAL	71.3%	75.121	73.61	75.81		!	
11	Influent SS (mg/L)	319.0	237.0	314.0 :	334.0			288.0
1 1	Primary SS (mg/L)	79.0 1	75.0 1	72.0 1	57.0 :	85.0 1	68.0 1	72.0 1
11	Secondary SS (mg/L)	10.0 1	11.0 1	10.0 ;	10.0 :	9.0 1	11.0 :	9.0 1
::	I PRIMARY REMOVAL	75.2%;	68.4%	77.121	82.9%	77.32:	84.4%	75.0%
11	% SECONDARY REMOVAL	96.91	95.421	96.81	97.01:	97.621		
11-	Influent NH4 (mg/L)			; :{				
11	Primary NH4 (mg/L)	22.0				i		
11	Secondary NH4 (mg/L)	22.0 1	i					i
11	% PRIMARY REMOVAL				1		1	
11	% SECONDARY REMOVAL	1	i	1		1	1	1111
11-	7-11 1 7W / // h							
11	Influent TKN (mg/L)	i		i	i		100	•
11	Primary TKN (mg/L)	22.0	i	i ,	i	i	i	:
11	Secondary TKN (mg/L) 2 PRIMARY REMOVAL	22.0 i	i	i	i	i	i	;
11	X SECONDARY REMOVAL		- 1	i 8 1	1	1	1	1
11-	Telluna Tekal D Janil )	7.50		7.70	7.70	0.70		0.00.1
11	Influent Total P (mg/L) Primary Total P (mg/L)	7.50	5.90 !	7.70 :	7.70 !	9.30 }	8.00 !	8.80 ;
	Secondary Total P (mg/L)	1.00	1.40	1.60	1.40	0.80	1.00	1.20
11	% PRIMARY REMOVAL	86.7%	76.3%	79.2%	81.8%	91.42!	87.5%	86.41

HAMILTON WPCP

- TREATMENT FACILITY: Secondary

PERIOD ENDING: July 3, 1987

SAMPLING SEASON: Summer (Warm Weather)
DESIGN AVG FLOW: 409,140 m3/d

2 1 2 1 2 1 2 1				PRE-SA	MPLING PER	100		
11	PARAMETER						DAY 13 1	
11=					,			
3 1 5 1 5 2 3 3 8 3	RAW SEWAGE FLOW	515,981	412,331	347,776	331,865	431,879	350,958	289,586
	% of Design Flow	126.117	100.781			105.56%		
	Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) 1 PRIMARY REMOVAL 2 SECONDARY REMOVAL		2 2 2 3 3 3 9	1 2 3 3 3 1 1 2 2	3 3 5 5 3 3 1 1		1	
2 H 3 T 0 B 2 D 2 D 2 D 2 D	Secondary SS (mg/L) I PRIMARY REMOVAL	285.0   149.0   10.0   47.7%   96.5%	193.0   97.0   9.0   49.7%  95.3%	91.0 : 11.0 : 67.31:	9.0 : 61.3Z:	138.0 ( 10.0 ( 53.42)	87.0 ; 7.0 ; 60.32;	183.0 51.0 10.0 72.12 94.52
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL			, , , , , , , , , , , , , , , , , , ,		, , , , , , , , , , , , , , , , , , ,		
2 P P P P P P P P P P P P P P P P P P P	Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL		2 2 3 3 5 6 6 7	1 1 1 1 2 2 1	1 3 7 7 9 9 1 1	1	1 1 2 1 3 1 1 1	1 1 1 1 1 1 1 1
	Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L)	1	4.30	6.80	6.90	1	ŧ	4.40
11	2 PRIMARY REMOVAL 2 SECONDARY REMOVAL	1.10 ; ; 81.01;	0.90 : 79.1%:	1.40 :	0.90 : 87.0%:	0.70 ; 89.92;	3 8	0.80

OPERATIONAL EVALUATION FOR: HAMILTON NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: July 3, 1987
SAMPLING SEASON: Summer (Warm Weather)

DESIGN AV6 FLOW: 409,140 m3/d

1				SAMP	LING PERIO	D	
; ; ;==	PARAMETER	DAY 15	DAY 16 ;		DAY 18 :	DAY 19 :	
1	RAN SEWAGE FLOW	300,497	275,948	288,677	353,231	287,313	1
2 2 2	% of Design Flow	73.45%	67.45% I	70.562	86.331	70.22%	1 3 3 6 8
3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Influent BOD (mg/L) Primary BOD`(mg/L) Secondary BOD (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL	{					
	Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL	207.0   86.0   6.0   58.52   97.12	60.121	262.0 : 69.0 : 3.0 : 73.72: 98.91:	358.0 ; 46.0 ; 6.0 ; 87.2%; 98.3%;	5.0 : 79.7%	
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL				1 1 2 2 2 2		
	Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL			1	1		
	Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) 7 PRIMARY REMOVAL	4.40 1	4.90	4.70	5.80	7.10	         
1	% SECONDARY REMOVAL	70.5%	71.421	74.5%	82.8%	93.02	1

Maintainant Name   Contaminant		PLANT NAME: Hamilton (We PLANT TYPE: Secondary	AME:	Hamilto		odward)					SAMPL	SAMPLING TYPE SAMPLE FORM	: Raw Sewage : Wet Welght	Sewage Velght			
### PRODATES ### P	CONTAM	CONTAMINANT NAME	UNITS	QC PE		MAX. DET. CONC.	PLANT # SAMPLES	PLANT PET.	PLANT % PREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO, MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
No.	NVENT	IONALS															
OBSIGNATION   CARBON   CARBO	35	BOD S DAY -TOTAL DEMAND	med.		2.00	178.00	10	10	1000	24.7	366	9 98	140.66	140 33	1 30		0 000
BESTOLE ANGLOS ON FOR CAMENON   10,000   10,000   271   271   11,000   271   271   11,000   271   271   11,000   271   271   11,000   271   271   11,000   271   271   11,000   271   27		CHEMICAL OXYGEN DEMAND	med.	7	72.00	408.00	7	7	100.0	260	258	99.2	331.82	287.75	1.17	1.82	1000
Company of the part of the p		DISSOLVED ORGANIC CARBON	med		10.50	14.00	10	01	100.0	27.1	172	100.0	12.07	22.39	1.09	181	100.0
Herdonic production	KIR	NIROGEN-TOT-KIEL LINP TOT	me/L		06.1	35.00	0 0	9 9	100.0	273	274	9.00	16.60	15.37	1.15	691	100.0
HESDIDILE_NATIONAL_NTERNAL_N		(-LOG(II+(CONCN))			6.80	7.02	10	0	100.0	275	275	0.001	6.92	06.90	10.1	100	0.000
RESIDELE, MALIOS OF 1001		PHOSPHORUS, UNFILT. TOTAL	med		4.22	10.30	11	=	0.001	248	248	0.001	6.29	5.18	1.25	131	1000
RESIDELLAGAZION LINEARIA		RESIDUR, PARTICULATE	me/L		00.94	353.00	10	10	100.0	267	266	9.66	232.12	126.88	1.25	1.93	100.0
NUMERIAL PRITREM.   100   10	10,0	NESIDUE, PART, OSS ON IGNI.	mg/L		00'90	210.00	en c	en u	100.0	96	88	98.9	142.69	100.84	1.30	1.78	100.0
S	JC	PHENOLICS (4AAP)	me A		0.59	2.70	01	חשים	50.0	27.5	37	13.5	0.46	0.01	4.89	2.05	51.4 17.8
ALENORISHENDERNICATIONAL   Name	T.K	NITRATES, TOTAL FILT. REAC.	med		0.25	0.30	10	3	30.0	275	87	10.2	80.0	0.05	2.78	233	32.4
ALTAMENTALINENT TOTAL   Unit   00000   110000   11   11   1000   271   235	SIV																
ALDIMINIARY TOTAL																	
CHROMEIDALISPETIT TOTAL.  CHROMEIDALISPETIT TOTAL.  CHROMEIDALISPETIT TOTAL.  CHROMEIDALISPETIT TOTAL.  CHROMEIDALISPETIT TOTAL.  UMA. 0 16000 110 111 11000 221 227  CHROMEIDALISPETIT TOTAL.  UMA. 0 16000 110 111 11000 231 318  SIN SECURAL TOTAL.  UMA. 0 16000 110 111 11000 231 318  SIN SECURAL STORAL.  UMA. 0 16000 111 11 11000 331 318  SIN SECURAL STORAL.  UMA. 0 16000 111 11 16000 331 318  SIN SECURAL STORAL.  UMA. 0 16000 111 11 16000 331 318  SIN SECURAL STORAL.  UMA. 0 16000 111 11 16000 331 318  SIN SECURAL STORAL.  UMA. 0 16000 111 11 16000 331 318  SIN SECURAL STORAL.  UMA. 0 16000 111 11 11 16000 331 318  SIN SECURAL STORAL.  UMA. 1 24000 111 11 11 11 11 16000 331 318  SIN SECURAL STORAL.  UMA. 1 24000 111 11 11 11 11 11 11 11  SIN SECURAL STORAL STORAL.  UMA. 1 24000 111 11 11 11 11 11 11 11  SIN SECURAL STORAL.  UMA. 1 24000 111 11 11 11 11 11 11 11  SIN SECURAL STORAL STORAL.  UMA. 1 24000 111 11 11 11 11 11 11 11 11  SIN SECURAL STORAL STOR	20.55	ALUMINUM UNFILTTOTAL	Non I	2	_	1000.00	= 5	= 9	100.0	322	306	95.0	2470.00	1000.10	2	2.65	97.3
COMPACHE LINET TOTAL	5	CHROMIUM.UNFILT.TOTAL	nev.		00.00	820.00	2 =	2 =	1000	117	237	30.3	00.00	06.1	1.79	6.88	32.4
MARCIOLORENCINALITY   Marcial   Ma	_	COPPER, UNPILT, TOTAL	, S		00.00	180.00	7	7	100.0	49	48	98.0	170.00	110.60	801	2.28	7.68
STROCKENHELL TOTAL.  1917.  19	<b>.</b>	MURCURY, UNPILIT TOTAL	ue.			0.58	01	01	100.0	283	274	8'96	0.32	0.23	75	211	100.0
SILVIELURELITOTAL  UML  UML  UML  UML  UML  UML  UML  U		ZINCHINE TECTAL	Non I			00.009	,	= :	100.0	319	318	200	430.00	370.70	1.21	2.14	100.0
CADMIUM,UNENTETTOTAL upt. 0 1000 6000 11 5 45.5 122 76  NICKEH, UNFRITTOTAL upt. 0 1000 1000 11 5 45.5 122 77  NICKEH, UNFRITTOTAL upt. 0 1000 1000 11 5 45.5 122 77  MGLYBDENDM,UNFRITTOTAL upt. 0 1000 1000 11 5 45.5 122 77  MGLYBDENDM,UNFRITTOTAL upt. 0 1000 1000 11 1 1 1 1 1 1 1 1 1 1 1 1	-	SB.VER UNTIL TOTAL	nev.			40.00	12	- 4	200.0	322	315	8.18	00.00	211.00	1.58	2.94	0.001
NUMERION   NUMERICAL   Numer	2	CADMIUM, UNPILT. TOTAL	No.		000	90.09	=	) wn	45.5	322	76	23.6	10.00	6.50	235	200	70.3
MONTADE STATE		NICKEL, UNFILT TOTAL	Non.		00.09	180.00	11	N :	45.5	322	103	32.0	40.00	38.80	1.98	2.70	25.25
EUTRAL AND ACID EXTRACTABLE COMPOUNDS  EUTRAL AND ACID EXTRACTABLE COMPOUNDS  I PALORANTHENE  WALL  WA	-	MOLYRDENIM INKII T TOTAL	200		00.00	70.00	12	n c	45.5	322	57	17.7	90.00	59.50	2.20	1.86	51.4
HJUORANTHENE		COBALT,UNPLTTOTAL	2		00.0	10.00	:=	4	9.1	322	82	25.5	10.00	9.30	1.38	231	83.8
HALORANTHENE	NEC	TRAE AND ACID EXTRACTABLE COMP	OUNDS														
BENZOGBIFLIORANTHENE	2	BNHLINAGOTTE			040	90	•		0 0 0	9 000	,						
BENZOCRIFICIORANTHENE	RE	M-CRESOL.	ne.		0.10	72.60	0 0	n c	30.0	27.5	14.7	5.5	5.68	5.09	1.71	1.29	5.4
PHENANTHHENE   Ug/L   1 220 220 10   1 10.0 275 7   1   1   1   1   1   1   1   1   1	KA	BENZO(B)H.UORANTHENE	2		4.00	14.00	10		10.0	275		0.4	4.72	5.01	1.89	1.27	27
24-DICHLOROPHENOXYACETIC ACID 44-DICHLOROPHENOXYACETIC ACID 64-DICHLOROPHENOXYACETIC ACID 124-THICHLOROPHENOXYACETIC ACID 125-THICHLOROPHENOXYACETIC ACID 125-	N.	HENANIHKENE	ng/L		2.20	2.20	10	-	10.0	27.5	7	2.6	4.61	5.17	1.30	1.35	10.8
24-DICHLOROPHENOXYAGTICACID         ug/L         3         0.06         1.70         10         10         276         214           QAMMA-BICCHLOROPHENOXYAGTICACID         ug/L         2         0.02         0.10         10         7         70.0         276         143           1.24-TRICHLOROPHINZHNE         ug/L         3         0.04         0.45         10         6         60.0         276         35           PCB, TOTAL         ug/L         3         0.04         0.45         10         6         60.0         276         42           SU, YEX         ug/L         3         0.12         0.25         10         4         40.0         276         22           SU, YEX         ug/L         3         0.03         10         2         20.0         276         28           MRRX         ug/L         1         0.25         0.23         10         1         10.0         276         47           LES ORGANIC COMPOUNDS         ug/L         1         29.00         10         1         1         10.0         274         12	ICID	S, HERBICIDES, PCBS															
A-ADICALOMONOPHENOXYACHTCACID         ug/L         3         0.006         1.70         10         100,0         276         214           0.AAAMA-BICCHICARCALEXARB         ug/L         2         0.02         0.10         10         7         70,0         276         314           1.24-THICHOROBHIZHUR         ug/L         2         0.02         0.10         10         7         70,0         276         35           2.45-THICHOROBHIZHUR         ug/L         3         0.04         10         5         50,0         276         42           2.45-THICHOROBHIZHUR         ug/L         3         0.12         0.25         10         4         40,0         276         22           SULYEX         ug/L         3         0.03         0.04         10         2         20,0         276         10           MIRRY         ug/L         1         0.25         0.03         10         1         10,0         276         47           LES ORGANIC COMPOUNDS         ug/L         1         29.00         10         1         10.0         274         12																	
1.24-THICHLOROBENZENB   u_dA_1   3 0.04   0.45   10   6 6.00   276   35     PGB, TOTAL	00	24-DICHLOROPHENOXYACETIC ACID GAMMA-BITCHEXCHLORCYCLHEXANE			0.06	1.70	0 0 0	10	100.0	276	214	51.8	0.27	0.13	3.00	3.72	0.001
Colored Compounds		1,24-TRICHLOROBENZENE			0.04	0.45	10	9	0.09	276	35	12.7	0.0	0.01	3.65	2.48	40.5
SILVEX SILVEX HEFTACHLOR HEFTACHLOR MIREX HEFTACHLOR MIREX HEFTACHLOR HIGH HIGH HIGH HIGH HIGH HIGH HIGH HIG	-	24 S-TRICLORPHENOXYACTTIC ACID	200		0.36	1.20	0 0	<b>3</b> 0 <b>4</b>	50.0	276	42	15.2	0.16	90.0	4.60	231	46.0
HEPTACHLOR	>	SILVEX	ne.		0.10	0.76	2 9	• •	30.0	276	22	8.0	0.09	90.0	205	097	37.8
MIREX METHOXYGLOR MACH OX 0.03 10 2 20.0 276 6 METHOXYGLOR MACH COMPOUNDS  TETS ORGANIC COMPOUNDS  THE TRACTIC COM	Tr.	HEPTACHLOR	ne.		0.03	0.04	10	. ~	20.02	276	01	3.6	000	000	1.92	1.08	18 0
LES ORGANIC COMPOUNDS  THEY RACIOLOR OF TITY LENH  LES ORGANIC COMPOUNDS  THEY RACIOLOR OF TITY LENH  LEA ORGANIC COMPOUNDS  THE TRACIOLOR OF TITY LENH  THE TRACION CONTRACTOR OF TIT	×	MIREX	200		0.02	0.03	01	7	20.0	276	9	2.2	0.01	0.01	1.48	1.28	10.8
LES ORGANIC COMPOUNDS  TRITACIBLOROFITIVILENH  **M** 1 29:00 29:00 10 1 10:0 274 12		NOTICE I COLOR	5		0.23	0.23	10	-	10.0	276	47	17.0	90.0	0.08	991	3.14	43.2
TETRACHI.OHOFFTIMI.ENH ug/l. 1 29.00 29.00 10 1 10.0 274 12	TILE	S ORGANIC COMPOUNDS															
TBTRACHLOROFTHYLENH																	
	×	TETRACIO OROFTI MILENH			00.6	29.00	10	-	10.0	274	12	4.4	20.76	21.51	1.12	1.53	18.9

PLANT NAME: Hamilton (Woodward) PLANT TYPE: Secondary

SAMPLING TYPE : Final Effuent SAMPLE FORM: Wet Weight

GLOBAL & PREV. 88.7 88.7 88.7 89.3 67.9 67.9 67.9 113 96.4 32.1 21.4 33.7 28.6 50.0 32.1 GLOBAL SPREAD FACTOR 15 8254282428 1.93 286222222 4.42 99 PLANT SPREAD FACTOR 22.10 22.10 340.90 53.30 101.70 6.60 6.40 16.50 21.22 8.28 8.09 0.22 7.97 7.10 0.68 10.12 2.33 1.37 1.09 0.02 GLOBAL, GEO. MEAN \$6.00 \$6.00 10.00 10.00 20.00 19.75 33.36 5.70 14.73 0.38 16.63 7.10 0.73 6.92 0.81 2.39 1.86 1.26 0.00 GEO. MEAN GLOBAL % FREQ. DET. 99.1 99.1 99.1 99.5 99.6 99.6 14.7 944 944 945 945 944 944 69.2 78.0 78.0 15.9 15.9 13.7 14.0 11.0 8.0 1.8 GLOBAL DET. ひたちゃったっとい 32 SAMPLES GLOBAL 25858585555 228 224 PLANT % FREQ. DET. 100.0 100.0 100.0 75.0 75.0 58.3 33.3 8.3 0.00 10.0 PLANT DET. 0 L 0 0 0 0 0 0 0 8 - -SAMPLES 01000000000000 2222222222 22222222 99 PLANT PLANT MIN. CONC. MAX. DET. > DL CONC. 60.00 20.00 20.00 20.00 10.00 10.00 58.00 7.10 19.10 19.10 1.27 20.40 7.43 1.52 14.40 5.20 5.20 4.90 0.08 0.01 0.02 0.02 0.04 0.46 4.10 22.00 22.00 22.00 12.60 0.03 0.03 0.26 0.26 0.20 0.20 0.20 00.00 0. 90.00 06'1 2.90 ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE NYS-STD ONT-MOE ONT-MOE ONT-MOE NYS-GUL ONT-MOE ONT-MOE NYS-GUL NYS-STD STD. FOR STD. REF. DNT-MOE ONT-MOR S QC STD. FUR CODE SURFACE 25.00 25.00 37.50.00 75.00 100.00 10.00 00.00 0.70 000 5.00 WATER UNITS 22222 333333333 35 22222 3555555555 10 IASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS GAMMA-BHC(HEXCHLORCYCLHEXANE) ALPHA-BIFC(HEXCHLORCYCLJIEXANE) 24-DICHLOROPHENOXYACETIC ACID BETA-BHC (HEXCHLORCYCLHEXANE) 2,4,5-TRICLORPHENOXYACETIC ACID CONTAMINANT NAME DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL FILT REAC. CHROMIUM, UNFILT. TOTAL MOLY BDEINUM, UNFILT. TOTAL BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND NITROGEN-TOT-KJEL,UNP.TOT RESIDUE, PARTICULATE
NITRATES, TOTAL FILT REAC.
RESIDUE, PARLOSS ON IGNI. PHOSPHORUS, UNPILT. TOTAL STRONTIUM, UNFILT. TOTAL ZINC,UNFILT.TOTAL ALUMINUM,UNFILT.TOTAL 1,2,4-TRICHLOROBENZENE TETRACH OROETHYLENE CHLOROPORM CADMIUM, UNFILT. TOTAL MERCURY, UNPILT. TOTAL **VOLATILES ORGANIC COMPOUNDS** COBALT, UNPILT. TOTAL VICKEL, UNITLT. TOTAL NITRITE, FILT. REACT. EAD UNITLY TOTAL **TESTICIDES, HERBICIDES, PCBS** (-LOG(H+(CONCN)) PHENOLICS (4AAP) METHOXYCHLOR NITROBENZENE PCB, TOTAL SILVEX CONVENTIONALS XITETR CONTAM. NNO2FR PPUT RSP NNOTPR RSPLOI PHINOL PIBHCA PIBHCB PIDMDT PIPCBT P3245T PMINTE NATION METALS HOUT SRUT ZNUT ZNUT CRUT CRUT COUT COUT

PLANT NAME: Hamilton (Woodward) PLANT TYPE : Secondary

SAMPLE FORM: Wet Weight SAMPLING TYPE : Recycle

GLOBAL % PREV. GLOBAL SPREAD FACTOR 253 264 264 264 264 266 266 266 3.16 5.65 PLANT SPREAD FACTOR .21 GEOBAL GEO. MEAN 58.40 874.70 1814.00 109943.30 905.21 34.39.26 77.62 146.20 3.60 0.05 28798.20 41620.20 308.60 44.20 1347.00 3112.40 72.30 429.50 37.50 4.00 \$62.69 23.60 6.94 53.43 0.79 0.06 0.08 0.08 0.08 0.08 GEO. MEAN 1340.00 15.36 68.71 18700.00 910.00 00.009 159.32 66.9 2053.72 3.60 50.00 150.00 3940.00 70.00 40.00 30.00 58.01 220,00 1.60 0.22 0.08 0.01 0.09 1.03 0.05 0.05 34650.00 GLOBAL % FREQ. DET. 52.8 GLOBAL DET 38-13544245 227285282548528388 4 2827072177 SAMPLES GLOBAL 885151555-511 8252222222222222222 43 11111111111 PLANT & FREQ. 100.0 0.0 00000000000 PLANT DET 010000-01-81-SAMPLES PLANT 226122521256222552 0 222222222 QC PLANT PLANT CODE MIN. CONC. MAX. DET. CONC 21.00 7.44 91.50 3580.00 0.09 37000.00 120.00 400.00 240.00 1300.00 8500.00 130.00 1200.00 70.00 170.00 90.00 274.00 35.00 0.20 0.20 0.20 0.00 0.00 0.00 250000.00 2700.00 1500.00 16000.00 DI. 12.30 \$2.50 114.00 34.60 1170.00 1040.00 2600.00 3.60 310.00 1190.00 00:09 110.00 420.00 490.00 470.00 274.00 0.42 30.00 30.00 10.00 20.00 00'00091 800000 UNITS QC 55555 355555 2222222222222222 2 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS 222222222 GAMMA-BHC(HEXCHLORCYCLJHEXANE) ALPHA-BHC() (BXC)() (DRCYC) J (BXANE) BETA-BHC (HEXCHLORCYCLAHXANE) 2,4-DICTR OROPHENOXYACETIC ACID DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL, FILT, RUAC, NITROGEN-TOT-KJEJ, UNF-TOT CHEMICAL, OX YORN DEMAND MOLYBDHNUM, UNPILT. TOTAL. BOD, 5 DAY -TOTAL DEMAND (-LOCCH+(CONCN))
PHOSPHORUS,UNPILTTOTAL CYANIDE-PREE, UNPILT REAC. VITRATES, TOTAL, FILT. REAC. RESIDUE, PARLOSS ON IGNI. MAGNESIUM, UNFILT. TOTAL. STRONTIUM, UNPILIT TOTAL LATOT.T.IFINU, MUNIMULA CHROMIUM, UNFILT. TOTAL 24-TRICH OROBENZENE CADMIUM,UNPILT.TOTAL. MERCURY, UNPILIT TOTAL. SELLENIUM, UNPILIT. TOTAL. CALCIUM, UNFILT TOTAL CONTAM. CONTAMINANT NAME RESIDUR, PARTICULATE COMPER, UNPILIT TOTAL. ARSENIC, UNFILT. TOTAL. COBALT, UNITILITOTAL NICKEL, UNFILT TOTAL. SILVER UNPILITTOTAL OAMMA-CHLORDANE METHOXYCHLOR PP-DDB NITRITE, FILT. REACT. L'ADJUNETITOTAL RON, UNIVERTOTAL. ZINC, UNITIL T. TOTAL. MENOLICS (4AAP) PESTICIDES, HERBICIDES, PCBS PCB, TOTAL RIRBIDITY M-CRESOL SILVEX CONVENTIONALS DOC NNITHER NNTKUR PH PPUT RSP PMMCRE PRUT ASUT CCNPUR COUT MOUT PIBLICA PIBLICB PIBLICG PSSILV PICHLG PIDMDT PIPPDE RSPI,OI NNO 21-R RICON NAN THE HEUT MOUT NIUT SEUT SRUT ZNUT PIPCBT P324D X2124 CAUT

1		PLANT NAME : Hamilton (Woo PLANT TYPE : Secondury	ME: H	familton (V	Voodward)				1,9	SAMPL	SAMPLING TYPE SAMPLE FORM	: Recycle : Wet Welgh	e				
CONTAM- INANT	. CONTAMINANT NAME		UNITS	UNITS QC PLANT CODE MIN. CONC.	T PLANT INC. MAX. DET. L CONC.	FLANT F. SAMPLES	PLANT # S DET.	PLANT % FREQ. DET.	GLOBAL * SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.	1
															×	y	
PESTICIE	PESTICIDES, HERBICIDES, PCBS																
P3245T	24.5-TRICLORPHENOXYACETIC ACID	CETIC ACID	ug/L	3 0.8		10	*	40.0	4	90	40.9	1.02	0.43	2.87	4.50	77.8	
PIGILA	ALPHA-CHLORDANE		Ton .	1 0.03	3 0.05	2 9	en e	30.0	<b>4</b> 4	1 2	15.9	0.05	90.0	597	281	55.6 55.6	
PIDIEL	HEDTACHIOR		ne.	0.0		01	s en	30.0	4	0	20.5	0.04	0.07	2.65	3.83	44.4	
PIPPDD	PP-DDD		ugh.	1 0.02		10	3	30.0	2	10	7.22	0.04	0.05	279	2.86	66.7	
PIPPDT	PP-DDT		ug/L	3 0.16		10	3	30.0	‡	m	8.9	0.18	0.21	2.60	2.74	1.1	
PLALDR	ALDRIN		ng/L	0.0		10	2	20.0	1	9	13.6	0.04	0.00	2.96	3.46	33.3	
PIOCHE	OXYCHLORDANE		1/3n	2 0.0		10	7	20.0	1	4	1.6	0.04	0.03	2.87	2.96	777	
XIHCCP	HEXACHI OROCYCL OPENTADIENE	TADIENE	Less.	3 0.1		10	2	20.0	4	0	13.6	0.36	0.48	3.04	3.21	***	
X2HCB	HEXACHI, OROBENZENE		URA	2 0.0		10	2	20.0	4	12	27.3	0.0	0.07	2.89	431	8	
PIBHCD	DELTA-BITC(HEXCHLORCYCLHEXANE)	YCLHEXANE)	ne.	1 0.0		10	-	10.0	7	1	2.3	0.03	0.03	3.19	291	-	

DARSPERSON

(Woodward)	
(Wood	
Hamilton	Secondary
	• •
L NAME	TYPE
PLANT	PLANT

SAMPLING TYPE: Raw Studge SAMPLE FORM: Dry Weight

CONTAM. INANT	CONTAM: CONTAMINANT NAME.	UNITSQ (DRY C) WEIGHT)	ODE MI	UNITSQA/QC PLANT (DRY CODE MIN. CONC. /EIGHT) > DL	PLANT MAX. DEF. CONC.	FLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL.	GLOBAL. % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD PACTOR	GLOBAL SPREAD FACTOR	GLOBAL.
CONVENTIONALS	TONALS															
COD DOC NNITHR NNOZER NNOTER	CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONITIM, TOTAL FILT REAC. NITRITIS TOTAL, FILT REAC.		00000 60000	-	606060.61 60606.06 8787.88 6.90 53.87	n = n = n	~~~~	100.0	2-2-4:	2-4-4			892221.45 60606.06 5911.32 6.90 25.44	2000	3.19 0.00 4.59 0.00 2.21	100.0 100.0 100.0 100.0 93.9
PHI PHINOL PPUT RST RSTLOI	NIKOGENIO I AMPLONIO CLOCCHA (CONCO) PHENOLICS (AAAP) PHOSPHORUS UNPELTOTAL RESIDURE, TOTAL. RESIDURE, TOTALOSS ON IGNE.		\$ 2825	6.16 104.38 24915.82 29700.00	641 148.15 41750.84 29700.00	~~~~~	nnnnn	0.0000000000000000000000000000000000000	1 2 2 2 6 2 1 2 1 2 2 2 2 3 2 3 3 3 3 3 3 3 3 3 3	2 4 4 4 2 2	100.0 100.0 100.0 100.0	57318.23 628 124.35 32253.01 29700.00 15400.00	82.34 82.34 20347.70 32743.51 20603.05	8 8 8 1 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	100.0 85.3 100.0 100.0 100.0
METALS																
AGUT ALUT ASUT COUT COUT COUT COUT	SHAREUNFILTOTAL ALUMINUMUNFILTOTAL ARSENICUNFILTOTAL COMILIMUNFILTOTAL CORMILIMUNFILTOTAL CORMILIMUNFILTOTAL COPPERUNFILTOTAL MERCIRYUNFILTOTAL		0000000	37.04 17.070.71 18.86 13.13 20.54 808.08 538.72 2.36	59.26 12794.61 23.57 27.61 43.77 1144.78 538.72	000000-00	~~~~~~	100.0 100.0 100.0 100.0 100.0 100.0	\$ 2 2 2 4 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	88.9 100.0 98.0 73.2 98.0 100.0	46.85 9511.41 21.08 19.04 29.98 961.81 538.72	30.17 9835.74 6.13 9.74 9.29 301.43 606.31	139 117 117 117 118 118 118 118 118 118 118	261 251 201 4.35 4.69 3.68 1.72	84.4 100.0 97.1 90.0 73.3 97.1 100.0
MOUT NAUT PRUT SEUT SRUT ZNUT BEUT	MOLYBRINDEN UNFILL TOTAL. NICKEL, UNFILL TOTAL. SELENIUM, UNFILL TOTAL. STRONTIUM, UNFILL TOTAL. ZINC, UNFILL TOTAL. BERYTLLUM, UNFILL TOTAL.		_	11.45 114.48 225.59 4.38 202.02 1818.18	19.53 141.41 471.38 22.90 336.70 2592.59 1.01	,,,,,,,,,		100.0 100.0 100.0 100.0 100.0 50.0	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	244422	95.7 98.0 96.0 100.0 4.0	14.95 127.24 326.10 10.01 260.81 2171.13	580 59.17 173.99 3.04 231.70 905.39 0.50	\$ 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2.24 2.24 1.93 1.93 2.39 3.55	66.3 96.9 93.3 93.9 1000.0 1000.0
BASE NEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SOUNG														
PMMCRE PMPHEN PNBBPA PNH AN PNPHEN	M CRESOL. PHENOL. BENYOGBJALUORANTHENE FILLORANTHENE PHENANTHENE PYRENE	22222	2 15	367.00 4 15656.60 7811.40 27878.80 20740.70	24633.00 24633.00 7811.40 27878.80 24316.50 20740.70	~~~~~	77	100.0 100.0 50.0 50.0 50.0	222222	2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	#2.3 29.4 2.0 3.9 11.8 3.9	12328.40 19638.50 51.28.40 9688.50 9048.40 10234.80	116847.30 7312.80 2924.20 3083.50 3563.50 4522.60	1.38 1.38 1.81 4.46 4.05	12.16 3.00 1.82 1.97 2.19 1.87	88.3 38.2 2.9 5.9 17.7 5.9
PESTICIDI	PES CICLIDES, HERBICTIDES, PCBS															
PLECRT P3245 P3240 P321.V P18HCG PIDIEL. PIDMET PHENDI	PCB, TOTAL. 24.51-RICI ORPHENOXYACTETC 24-DICHLOROPHENOXYACTETC 511-YEX GAMMA BUCHEXCHLORCYCLIEX DIELDRIN METHOXYCHLOR ENDOXULEAN I HI PTACHLOREPOXIDE	*********	28-22-82 28-22-82	195.30 124.66 124.66 101.00 101.00 116.80 13.50 16.80	2895.60 370.40 225.60 67.30 10.00 16.80 202.00 16.80		~~~~~	100.0 100.0 100.0 100.0 50.0 50.0 50.0 5	555555555	40 21 23 23 23 24 20 20 19 12	78.4 41.2 74.5 45.1 84.9 39.2 37.3 17.7 23.5	752.00 136.80 167.70 49.90 18.50 7.60 58.30 6.80 7.60	88.70 48.90 93.20 47.30 7.20 45.80 4 60 5.00	6.73 4.09 11.52 11.00 11.00 5.80 2.86 3.09	3.18 9.49 6.50 2.69 2.69 2.10 2.15 2.62 2.62	79.4 47.1 82.3 85.9 67.7 50.0 44.1 20.6 32.4

	7 Y	PLANT NAME: Hamilton (Woodward) PLANT TYPE: Secondary	amilton (W	oodward)					SAMPL	SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight	E : Raw S : Dry W	ludge eight			
CONTAM.	CONTAM: CONTAMINANT NAME.	UNITSQA/ (DRY COI WEIGHT)	UNITSQA/QC PLANT PLANT (DRY CODE MIN. CONC. MAX. DET) (EIGHT) > DL CONC.	PLANT : MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL. # SAMPLES	GLOBAL # DET	GLOBAL. % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD PACTOR	GLOBAL SPREAD FACTOR	GLOBAL,
PHIEPT	HEPTACHLOR	ug/kg 3	101.00	101.00	2	-	80.0	51	7	13.7	18.50	4.50	90 11	287	30.6
PIMIRX	MIREX	ug/kg 1	101.00	101.00	2	-	90.0	51	2	3.9	18.50	4.00	11.00	2.37	5.9
CONTRACTOR	PP-DDD	ug/kg 1	101.00	101.00	2	-	20.0	51	13	25.5	18.50	5.10	11.00	2.48	35.3
K2124	1,2,4-TRICHLOROBENZENE	ug/kg 3	269.40	269.40	7	-	20.0	51	17	33.3	30.30	9.30	22.02	4.06	41.2
VOLATILE	VOLATILE ORGANIC COMPOUNDS							,							
XICHLO	CHLOROFORM (CHCL3) TETRACHLOROETHYLENE	ugke 1 ugke 1	5387.20	5387.20	7 7		50.0		3 2	23.5	1904.70	1225.10	\$5.4	4.24	35.3

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	PLANT NAME PLANT TYPE		: Hamilton (W	Voodward)					SAMPL	SAMPLING TYPE SAMPLE FORM	E : Treated Slu : Dry Weight	: Treated Sludge			
CONTAM- INANT	CONTAMINANT NAME.	UNITSOA (DRY CC WEIGHT)	UNITSQA/QC PLANT (DRY CODE MIN, CONC. VERGHT) > DL	PLANT C. MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL, % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
CONVENTIONALS	HONALS														
NNTKUR PH PHNOL PHUT RST RSTLOL	NTROCHA-TOT KJEL, UNE TOT (J.OKH-JCONCN)) PHENOLICS (AAA) PHOSPHORUS, UNFILE TOTAL RESIDUE, TOTAL RESIDUE, TOTAL		0 23699.99 0 7.20 0 9.23 0 27120.00 0 303200.00 0 136318.72	23699.99 7.20 38.59 27120.00 303200.00			100.0	\$ 7 \$ 2 8 8	9 4 4 4 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	100.0 100.0 100.0 100.0 100.0	23699.99 7.20 18.88 27120.00 303260.00	38494.12 7.17 43.05 76638.07 80434.06 43379.33	0.00 0.00 2.73 0.00 1.00	1.77 1.09 3.14 6.91 3.23 3.19	100.0 100.0 87.9 100.0 100.0
METALS															
AGUT ALUT ASUT COUT	SB VER, UNFUT, TOTAL. ALLIMINUM, UNFUT FTOTAL. ARSISHIC, UNFUT, TOTAL. CODMING THE MATTER TOTAL.		87.2	49.47 11213.72 14.61 16.49	~ ~ ~ ~ ~	0000	0.001	\$ 50 \$ 50 \$ 50 \$ 50	<b>4</b> 8 <b>4</b> 4 5	100.0 100.0 98.0 91.1	40.39 9918 62 14.31 15.99	37.78 10715.94 5.40	1.19	2.33 2.82 2.06 3.98	100.0 100.0 97.1 90.3
COUT COUT HGUT NICT	CORNAL, DONAL, TOTAL, CORNER, UNFILL TOTAL, MERCURY, UNFILL TOTAL, NICKEL, ENER TETOTAL,		560.69 0 560.69 0 791.56 0 2.11 0 56.07	1121.37 791.56 5.28 145.12	v ~ ~ ~ ~ ~	v a – a a	0.001	y 8 8 8 8	50 84 42 43 43	100.0 100.0 98.0 93.3	792.93 791.36 3.34 90.20	333.06 732.24 3.24 72.95	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	2.73 2.04 2.04 2.95	85.7 100.0 100.0 97.1
PRUT SRUT ZNUT MOUT	LEAD UNFILTTOFAL. STRONTHUM UNFILT TOTAL. STRONTHUM UNFILT TOTAL. ZINCJUNFILTTOFAL. BERYLLUM UNFILT TOTAL. MOLYBENUM UNFILT TOTAL.		187	362.80 14.18 247.36 2935.36 0.63 10.22			100.0 100.0 100.0 100.0 50.0 50.0	28 8 8 8 8	50 50 50 1 23	98.0 96.0 100.0 100.0 3.9.	297.57 11.05 235.54 2110.30 1.02 6.49	196 62 267 240 93 988 90 0.47 6.41	1,42	2.54 2.54 2.55 3.32 2.84	97.1 97.1 100.0 100.0 4.2 69.2
BASENE	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	ROUNDS													
PNRIAN PNRAA PNRAP PNRKP PNRTRY PNRICO PNNAPH PNRICO PNRICO PNRAPH	H JUORANTHENE ANTHRACENE HENZXAJANTHRACENE BENZXAJANTHENE CHRYSENE CHRYSENE H JOORENE NAPITHALENE PHENANTHENE PYBENE		8.20 3957 80 1 14511 90 1 10883-90 2 2448 50 1 13872 20 4 947 20 4 287 60 1 15171.50	22097.60 3957.80 14511.90 10883.90 13852.20 4947.20 4287.60 1877.50	~~~~~~~~	~	100.0 80.0 80.0 80.0 80.0 80.0 80.0 80.0	8 8 8 8 8 8 8 8 8 8	4-21-46826	8.0 2.0 2.0 2.0 2.0 12.0 2.4.0 6.0	425.70 1142.80 2187.70 1189.60 2396.90 2137.40 1277.30 1277.30 1289.10 2236.90	1338.50 1306.60 1339.50 1339.20 1475.50 1545.60 1545.60 2230.50	266.53 5.80 14.52 11.85 18.51 14.05 6.13 14.99	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2.29 2.29 2.29 2.29 1.10 2.20 2.20 2.20 2.20 2.20 2.20 2.20
DIOXINS A	DIOXINS AND FURANS 99CDD OCTACH GRODIBLENZODIOXIN	us/ks	6.30	6.30	-	-	0.001	49	26	33.1	6.30	7.10	00.00	3.86.	£.79
PESTICID	PEST ICTORS, HERBICTORS, PCBS														
PLMIRX PLPCBT PLPSDE X2124	MREX IVER, TOTAL PP DDE 1,24 TRICHLOROBENZESIE	2 2 2 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1 7.90 2 162 10 1 6.70 3 82.50	80.80 \$592.10 33.00 \$49.40	2222	2222	100.0 100.0 100.0 100.0	\$0 \$0 \$0	8 2 4 5 2 4 5	0.00 0.00 0.00 0.00	25 30 952.10 14 90 212 90	4 90 114 10 11 10 14.80	5.18 12.23 3.09 3.82	2.52 4.58 2.72 5.02	17.7 67.7 73.5 52.9

SAMPLING TYPE: Treated Studge SAMPLE FORM: Dry Weight

ALDRIN BETA-BHI CHEXCHLORCYCLIGXANE) ALPIA CHLORDANE GAMMA-CHLORDANE DIELDRIN OXYCHLORDANE MIRRY PHOTO 2,4 DICHLORDANE BILARI BEXACHLORDANE HEXACHLOROBENZENE HEXACHLOROBENZENE HEXACHLOROBENZENE HEXACHLOROBENZENE HEXACHLOROBENZENE GANITY BENZENE (CRHIO) M. AND P. XYLENES O. YYLENE (CRHIO) CHLOROPORM (CHCL3)	CONTAM.	CONTAMINANT NAME	UNITSQ (DRY C WEIGHT)	UNITSQA/QC PLANT (DRY CODE MIN. CON EIGHT) > DL	UNITSQA/QC PLANT (DRY CODE MIN. CONC. EIGHT) > DL	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL #	GLOBAL # DET	GLOBAL * FREQ. DET.	0.1	PLANT GEO. MEAN	GLOBAL. GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.	
ALIDRIN						1													
BETA-BHC (HEXCHLORCYCLHEXANE)   ug/kg   1   131.40   131.40   2   1   50.0   50   19   38.0   20.80     CAMPAN CHLORDANE   ug/kg   1   14.70   24.10   20.10   2   1   50.0   50   22   44.0   7.00     CAMPAN CHLORDANE   ug/kg   2   13.10   20.10   2   1   50.0   50   21   42.0   8.10     DHELDRIN CHLORDANE   ug/kg   2   13.10   13.10   2   1   50.0   50   15   30.0   6.60     CAYCHLORDANE   ug/kg   2   13.10   13.10   2   1   50.0   50   15   30.0   6.60     CAYCHLORDANE   ug/kg   3   1047.30   1047.30   2   1   50.0   50   2   4.0   7.30     CAYCHLORDANE   ug/kg   3   1047.30   1047.30   2   1   50.0   50   2   4.0   7.30     CAYCHLOROBENZIANE   ug/kg   3   1047.30   1047.30   2   1   50.0   50   2   4.0   7.10     CAYCHLOROBENZIANE   ug/kg   3   1047.30   1047.30   2   1   50.0   50   2   4.0   7.10     CAYCHLOROBENZIANE   ug/kg   3   15.20   15.20   2   1   50.0   50   14   20.0   7.10     CAYCHLOROBENZIANE   ug/kg   1   181.40   181.40   2   1   50.0   50   14   20.0   14   20.0   109.40     CALLON OFFICIALITY OFFICIA	PLALDR	ALDRIN	ue/ke	-	13.50	13.50	2	-	80.0	50	=	22.0	•	.70	5.30	2.71	2.67	26.5	
ALPHA CHLORDANE	PIBHCB	BETA-BHC (HEXCHLORCYCLJIEXANE)	ug/kg	-	131.40	131.40	2	_	80.0	20	61	38.0	8	80	8.80	13.53	4.39	47.1	
CAMMA-CHLORDANE   ug/kg   1   20.10   20.10   2   1   50.0   50   21   42.0   8.10	PICHA	ALPIA CHLORDANE	ug/kg	-	14.70	14.70	2	-	50.0	20	22	44.0	1	00	6.50	2.88	2.41	55.9	
DHELDRIN	PICHI.G	GAMMA-CHLORDANE	ug/kg	-	20.10	20.10	7	_	20.0	20	21	45.0	900	.10	08.9	3.59	2.58	52.9	
III   OXYCHIORDANE   Ug/kg   2   1770   1770   2   1   50.0   50   6   12.0   760	PIDIEI.	DIELDRIN	ug/kg	2	13.10	13.10	2	_	20.0	20	15	30.0	•	09	6.50	2.65	3.51	38.2	
MIREX PHOTO	PIOCIE.	OX YCHI.ORDANE	ug/kg	7	17.70	17.70	7	_	20.0	20	9	12.0	1	09:	4.20	3.28	2.24	17.7	
24 DICHLOROPHENOXYACETIC LUGAGE 3 1047.30 1047.30 2 1 50.0 50 25 50.0 131.50  7 SHLYKEN  14 MACHILOROPHENOXYACETICACID  15 LIEXACHILOROBENZENE  16 LIEXACHILOROBENZENE  17 LE ORGANIC COMPOUNDS  17 HEXACHILOROBENZENE  18 SOO 50 18 10.0 51.50  18 14.0 113.20  19 15.20 2 1 50.0 50 8 16.0 51.50  19 10 15.20 2 1 50.0 50 8 16.0 51.50  19 10 10 10 10 10 10 10 10 10 10 10 10 10	PIPMIR	MIREX PHOTO	ug/kg	2	16.00	16.00	2	-	90.0	. 50	2	4.0	_	.30	3.90	3.05	2.25	5.9	
SHIVEX   S	P324D	2,4 DICHLOROPHENOXYACETIC ACID	ug/kg	3	1047.30	1047.30	7	1	90.0	20	25	90.0	131	.50	75.00	18.82	5.81	64.7	
HEXACHLOROCYCLOPENTADIENE	P3SILV	SH.VEX	ug/kg	3	194.00	194.00	7	-	80.0	20	18	36.0	113	.20	92.70	2.14	2.94	44.1	
LE ORGANIC COMPOUNDS  LE ORGANIC COMPOUNDS	XIIICCP	HEXACHLOROCYCLOPENTADIENE	ug/kg	3	160.50	160.50	2		80.0	20	<b>cc</b>	16.0	53	.50	34.20	9:00	2.76	23.5	
LE ORGANIC COMPOUNDS	X2HCB	HEXACH OROBENZENE	ug/kg	2	15.20	15.20	2	_	50.0	20	21	45.0	-	.10	7.00	2.94	2.96	55.9	
LE ORGANIC COMPOUNDS																			
LE ORGANIC COMPOUNDS																			
HITTYTHENZEME (CRH10)   Light   HITTOTHENZEME (CRH10)   Light   HITTZTA   HITZZTA   HITTZTA   HITTZTA	VOLATIL	E ORGANIC COMPOUNDS																	
HETHYLHENZENE (SHID) LUGAR I HILAD 181.40 2 1 50.0 50 14 28.0 109.40 R. AND P.XYLENE (SHID) LUGAR 1 626.60 626.60 2 1 50.0 50 15 30.0 203.40 R. CHLOROPONE (CHICL3) LUGAR 1 823.50 8275.20 2 1 50.0 50 12 28.0 752.30 4																			
ETITY HENZENE (CRITO)   ULAKE   181.40   181.40   2   1 50.0 50   14 28.0   195.40																	2		
M. AND P. XYILENES	HZI: HNZ.	ETTIVI BENZENE (CRITIO)	ug/kg		181.40	181.40	7	_	90.0	90	*	0.82	108	140	606.50	2.04	5.59	32.4	
O-XYLENE (CHILO) ug/kg 1 824.50 824.50 2 1 50.0 50 14 28.0 233.30 2 (CHILOROPORM (CHICL3) ug/kg 1 8575.20 8575.20 2 1 50.0 50 12 24.0 752.30	HZMPXY	M. AND P.XYLENES	ug/kg	-	626.60	626.60	7	-	20.0	20	15	30.0	200	.40	816.00	4.91	7.11	32.4	
(CHLOROPONM (CHCL3)	R2OX YI.	O-XYLENE (C8H10)	ug/kg	-	824.50	824.50	7	-	20.0	20	*	28.0	233	.30	\$23.50	5.96	4.05	32.4	
	CHEDIX	CHLOROPORM (CHCL3)	ug/kg	-	8575.20	8575.20	2	-	80.0	20	12	24.0	75.	30	441.70	31.23	4.33	35.3	

## Sub-Appendix A-8

# Kingston City WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Kingston City WPCP
- o Analytical Data

A-8-2

KINGSTON WPCP Primary Phosphorus Removal - Continuous Capacity - 61.371 10(3) m3/day

		1		2	4	: 5 YEAR : AVERAGE
PARAMETER	1981	1982	1983	1984	1985	81-85
lvg. Daily Flow (1888 m3/day)	53.64	60.01	68.86	57.33	66.37	58.72
NOD5 - Influent (eg/L)	182.88	185.00	187.58	94.83	96.58	191.69
NOD5 - Effluent (mg/L) Nonual BOD5 Significantly Different from Mean	22.88	23.00	29.75	25.00	23.67	24.88
innual Average BODS?	1.D.	i I.D.	1.D.	1.0.	1.0.	1
SS - Influent (ep/L)	117.00	133.00	132.08	121.33	113.33	124.46
SS - Effluent (mg/L) innual TSS Significantly inferent from Mean	35.00	31.88	25.92	37.88	19.83	38.87
Annual Average TSS?	1.0.	1.D.	1.D.	1.0.	i I.D.	 
Total P - Influent (mg/L)	3.40	3.98	4.11	3.48	4.22	3.78
otal P - Effluent (mg/L) Annual TP Significantly Different from Mean	1.28	1.18	B.91	B.96	8.78	1.01
Annual Average TP? TP in Compliance?	I.D.	I.D.	i I.D.	i J.D.	I.D.	; N

I.D. - Insufficient Data

### SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

### GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE	KINGSTON CITY WPCP 120001050 PRIMARY PHOSPHORUS REMOVAL CONTINUOUS
DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	61.371
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	2
COMMERCIAL SOURCES (%) (Population x 0.0757)	7
RESIDENTIAL SOURCES (%) (Population x 0.175)	15
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from industrial, commercial and residential sources)	N 76
PROFILE OF INDUSTRIES IN CATCHMENT	
TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER	99 <b>4</b> 0
NO OF SIC CATEGORIES	23

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION		OF MPANIES
DAIRY	2021-2026	1
TEXTILE	2271-2299	2
STONE, CLAY & MINERAL PRODUCTS	3200-3299	2
WASTE TREATMENT & DISPOSAL	4592-4952	4
PRINTING AND PUBLISHING	2700-2799	9

## OPERATIONAL EVALUATION FOR: KINGSTON CITY NPCP

TREATMENT FACILITY: Primary PERIOD ENDING: May 22, 1987
SAMPLING SEASON: Summer (Warm Weather)
DESIGN AVG FLOW: 61,370 m3/d

3 5							P	RE-S	SAM	PLIN	IG P	ERI	OD								1
2	PARAMETER	DAY	1	3	DAY	2 1	DAY	3	1	DAY	4	1	DAY	5	!	DAY	6	1	DAY	7	-
1=			====	===		:::::		===:	:::	====	===	==:	====	===	===	===	===	===		===	= ;
5			1	9		8			1			1			1			1			1
8	RAW SEWAGE FLOW		1	3		8			2			8			8			8			1
3			1	8		-			8			1			3			8			1
3	1 of Design Flow		1	2 2		1			2			8			2 2			ŀ			
8			1	2		1			B B			3			1			1			1
1-												-;-						-;-			-
3	Influent BDD (mg/L)		1	1		1			E E			1			1			1			
B	Primary BOD (mg/L)		1	2 2		3			1			3			1			8			
1	Secondary BOD (mg/L)		1	8		8			9			1			8			3			
9	I PRIMARY REMOVAL		1	3		3			2			1			3			3			
8	% SECONDARY REMOVAL		1	1		1			1			1			1			8			
1 -				}		;-			-   -			-1-			3			- -		-	-
8	Influent SS (ag/L)		1	3		8			1			1			8			8			
8	Primary SS (mg/L)			8		1			2			8			8			1			
8	Secondary SS (mg/L)			1		1			1			1			2			9			
8 8	I PRIMARY REMOVAL			8		8			1			2			2 2			3			
10	1 SECONDARY REMOVAL		i	1		1			3			1			\$			8			-
1-									- : -			-1-						-}-			-
8	Influent NH4 (mg/L)			1		1			2			1			8			1			
9	Primary NH4 (mg/L)			í		i						i						í			
2	Secondary NH4 (mg/L)					í						i			1			í			
-	7 PRIMARY REMOVAL					i			i			i						i			
8	% SECONDARY REMOVAL			1		i			i			i			i			i			
-	Influent TVN (and)			;		;-			-;-			-i-			i			-;-			-
9	Influent TKN (mg/L)	1		i		1			i			i			i			i			
8 8	Primary TKN (mg/L)	1		1		i			. 1			i			i			i			
	Secondary TKN (mg/L)			1		i			i			i			i			i			
3	Z PRIMARY REMOVAL Z SECONDARY REMOVAL			i		i			i			3			j a			i			
1-	2 SECUMPART REMOVAL			i		ŧ			i			i			1			i			
9	Influent Total P (mg/L)			1		1			1			1			1			1			-
	Primary Total P (mg/L)	1		1		1			1			1			1			2			
	Secondary Total P (mg/L)	1		E a		1			2			1			1			3			
1 B	I PRIMARY REMOVAL	,		9		1			1			1			1			3 8			
	I SECONDARY REMOVAL			1		3			1						3			8			
	Z SECURDARY REDUVAL			8		0			1			-			8			-			

## KINGSTON CITY WPCP

TREATMENT FACILITY: Primary

PERIOD ENDING: May 22, 1987
SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 61,370 m3/d

11			PRE-SA	MPLING PERIOD		
11	PARAMETER	DAY 8	DAY 9 ; DAY 10 ;		12   DAY 13	1 DAY 14
11		!!!!	!!!	!	!	!
11	RAW SEWASE FLOW		50,007 :			1
1 1		1	1 1		1	1
!!	% of Design Flow	1	1 81.48%	1	1	1
! !		;	1 1	;	2 3	1
::					{	-
11	Influent BDD (mg/L)	1 1	1 74.0 1			1
11	Primary BOD (mg/L)		1 17 0 1	1		
11	Secondary BOD (mg/L) % PRIMARY REMOVAL	; ;	17.0 1	i	i	i
11	% PRIDHRY REMOVAL	i i	77.02	i	i I	i
!!	A DECOMPANT MENUVAL	!!			1 !	! -!
11	Influent SS (mg/L)		41.0 1			
11	Primary SS (mg/L)			1		
11	Secondary SS (mg/L)	; ;	1 15.0 1	1	1	1
!!	% PRIMARY REMOVAL	1	1 1	1	1	1
1 1	% SECONDARY REMOVAL	1	63.42	}	1	1
						-
11	Influent NH4 (mg/L)			1		1
	Primary NH4 (mg/L)					
	Secondary NH4 (mg/L)	i i			į	i
11	7 PRIMARY REMOVAL 7 SECONDARY REMOVAL	i i	i i	i	ř k	1
!!	P GEFOURNET VELIANT		· · · · · · · · · · · · · · · · · · ·			
3 1	Influent TKN (mg/L)	1	16.5 1			
1	Primary TKN (mg/L)		1 1	1	1	1
2 2	Secondary TKN (mg/L)	1 1	1 15.4 1	1	1	1
5 5 1 3	I PRIMARY REMOVAL	1	1	1	8	1
3 3	% SECONDARY REMOVAL	1	6.721	1	1	;
11		{				
11	Influent Total P (mg/L)	;	3.00 ;			
11	Primary Total P (mg/L)	i i	1 0 50 1	,		1
11	Secondary Total P (mg/L) % PRIMARY REMOVAL	i i	0.50	i		
11	Z SECONDARY REMOVAL	! !	83.321	1		1
11	* SECONDANT REHOVAL	, ,	1 00.041	,	,	

## KINGSTON CITY WPCP

TREATMENT FACILITY: Primary

PERIOD ENDING: May 22, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: 61,370 m3/d

1 1				SAMP	LING PER	100		
11								
11				1 DAY 17				
2 2			1			1	i	
9 B 2 D	RAW SEWAGE FLOW		1	52,735		i	i	i
	W of Donies Flow		i	85.931		i	i	i
11	% of Design Flow		8	1 53.7341		1	2	1
11		· ·	!	-!!		.!	· !	-!
1 0	Influent BOD (mg/L)		98.0			1		1
2 1	Primary BOD (mg/L)		1	1 3		1	1	1
11	Secondary BOD (eq/L)		34.0	1		1	1	1
2.2	I PRIMARY REMOVAL		9	1		1	8	2 2
2 B	I SECONDARY REMOVAL		65.3	1 :		1	1	2 2
11-	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		}	-				
11	Influent SS (ag/L)	84.0	64.0	96.0		1	1	1
11	Primary SS (mg/L)			1		1 1	1	1
1 1	Secondary SS (mg/L)	10.5	20.0	11.0		1		1
1 2	I PRIMARY REMOVAL	07.5	1 (0.7	1 00 5		1	i	1
11-	1 SECONDARY REMOVAL	87.5	68.7	88.5		i 	i 	i t
11	Influent NH4 (mg/L)	,	1			,		1
11	Primary NH4 (mg/L)		1			1	:	:
11	Secondary NH4 (mg/L)		1				1	:
3 2	I PRIMARY REMOVAL	2 5	1	1		1	2 2	1
11	% SECONDARY REMOVAL	1	2 h	2 2	2	3 1	2 2	1
11-						-;		
1 1	Influent TKN (mg/L)		i	1		3	1	3
3 3	Primary TKN (mg/L)	9	3	8		1	8	;
* *	Secondary TKN (mg/L)	1	1	1		1	1	:
11	I PRIMARY REMOVAL	3	;			1		
2 P	I SECONDARY REMOVAL	i	i	i i		i	í	í
11	Influent Total P (mg/L)	,	4,10	1		1	,	
5 8	Primary Total P (mg/L)	9	7.10	1		1	1	1
11	Secondary Total P (mg/L)	2	: 0.60			1	1	!
11	I PRIMARY REMOVAL	2	!			1		:
11	1 SECONDARY REMOVAL	ŧ	85.4			1		,

PLANT NAME: Kingston (City) PLANT TYPE: Primary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

GLOBAL & PREV. 0.001 100.0 83.8 100.0 89.2 100.0 100.0 100.0 100.0 100.0 78.4 GLOBAL SPREAD FACTOR 3.45 3.72 234 PLANT SPREAD FACTOR 245 2.28 122 66 11 12 8 8 8 6 GLOBAL GEO. MEAN 930 930 211.00 51.10 0.13 22.39 22.39 115.37 25.44 6.90 25.59 GEO. MEAN 62.17 169.51 12.94 13.43 18.27 6.87 0.26 10.00 20.00 10.00 8.80 0.16 GLOBAL % FREQ. DET. 99.6 100.0 100.0 99.6 99.6 96.8 25.5 97.8 73.6 42.9 51.8 GLOBAL DET 274 318 82 315 237 214 18 SAMPLES GLOBAL 276 322 275 PLANT & FREQ. DET. 100.0 100.0 100.0 100.0 20.0 000 100.0 100.0 83.3 66.7 SAMPLES 20 20 20 UNITS QC PLANT PLANT
CODE MIN. CONC. MAX. DET.
DL CONC. 0.37 20.00 40.00 30.00 76.40 210.00 15.50 15.90 7.02 7.02 16.70 0.03 580.00 10.00 20.00 30.00 45.80 138.00 112.00 111.70 16.50 6.69 16.10 0.09 m N 33 33 33333 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS 24-DICHLOROPHENOXYACETIC ACID GAMMA-BHC(HEXCHLORCYCL/EXANE) BOD, 5 DAY -TOTAL DEMAND CHEMICAL, OXYDRD BEMAND DISSOLVED ORGANIC CARBON AMMONIUM,TOTAL FILT, REAC, NITROGEN-TOT-MEL, LINE TOT (-LOCKH-CONCN) RESIDUE, PARTICULATE MERCURY, UNFILT: TOTAL STRONTIUM, UNFILT: TOTAL COBALT, UNFILT: TOTAL ZINC, UNFILT: TOTAL CHROMIUM, UNFILT: TOTAL CONTAM: CONTAMINANT NAME PESTICIDES, HERBICIDES, PCBS M-CRESOL PHENOL CONVENTIONALS BODS COD DOC NNHTPR NNTKUR PH RSP PMMCRE P324D P1BHCG METALS PMPHEN HGUL SRUT COUT ZNUT CRUT

GLOBAL GLOBAL SPREAD & PREV. FACTOR PLANT SPREAD FACTOR GEORAL GEO. MEAN SAMPLING TYPE : Final Effluent SAMPLE FORM : Wet Weight GEO. MEAN GLORAL \* FREQ. DET. GLOBAL # DET. GLOBAL G FLANT & FREQ. DET. PLANT # DET. UNITS QC STD. FOR STD. REF. PLANT PLANT PLANT CODE SURFACE MIN. CONC. MAN. DET. # PLANT NAME: Kingston (City)
PLANT TYPE: Primary WATER CONTAMINANT NAME CONTAM-

CONVENTIONALS	BODS COD DOC NNHTPR NNTRUR PH RSP	METALS ALLT CRUT CRUT CRUT SRUT SRUT SRUT SRUT COUT COUT COUT COUT COUT COUT COUT CO	VOLATILE
ONALS	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL, PILT, RIAC, NITROGEN-TOTAL JEL, UNF. TOT (-LOCKH-CONCN) RESIDUE, PARTICULATE	ALIT ALUMINUM, UNPILITIOTAL CRUTT CROMMINA, UNPILITIOTAL CUUT CROPPER, UNPILITIOTAL GUUTT CROPPER, UNPILITIOTAL FUUTT STRONTHUM, UNPILITIOTAL SRUTT STRONTHUM, UNPILITIOTAL COUT CORALT, UNPILITIOTAL COUT CORALT, UNPILITIOTAL COUT CORALT, UNPILITIOTAL COUT CONALT, UNPILITIOTAL COUT CONALT, UNPILITIOTAL COUT CONALT, UNPILITIOTAL COUT CONALT, UNPILITIOTAL CONDIT CONDITIONA CO	90
	med.	LEAN LEAN LEAN LEAN LEAN LEAN LEAN LEAN	
	000000	00000000 # N N M M	-
		75.00 100.00 5.00 3750.00 3750.00 30.00 5.00 5.00 4.00	0.70
		ONT-MOE	NYS.GUL
	20.80 8.00 12.80 15.20 7.01	130.00 10.00 10.00 60.00 30.00 30.00 10.00 10.00 40.00 40.00 0.01 0.01 0	230
	82.40 122.00 10.20 13.50 16.50 7.24 28.80	1000.00 40.00 60.00 0.13 610.00 80.00 20.00 20.00 10.00 40.00	2.20
	80 80 80 80 80 80 ,	@ B N B B B B B B B B B B B B B B B B	wn
	90 80 80 80 80 80 80 80 80 80 80 80 80	\$\$-\$\$\$48N- \$\$48N	-
	100.0 100.0 100.0 100.0 100.0 100.0	100.0 100.0 100.0 100.0 100.0 66.7 50.0 100.0 80.0 60.0	30.0
	0 0 0 0 0 0 0 0 0	8 8 8 8 8 8 8 8 0 0 0 0 0 0 0 0 0 0 0 0	38
	Q Q Q Q Q Q R	20 20 20 20 20 20 20 20 20 20 20 20 20 2	21
0 000	100.0 100.0 100.0 100.0 100.0 100.0	958 875 875 978 978 978 975 975 975 975 975 975 975 975 975 975	55.3
40.68	49.58 85.88 9.03 13.10 15.85 7.11 18.03	270 00 20 00 60 00 90 00 36 00 10 00 10 00 0.00 0.00 0.01 0.01 0.01	1.17
48.40	108.54 12.80 10.46 15.36 6.88 29.57	550.00 10.80 18.20 0.05 304.90 65.00 6.50 0.00 0.00 0.00 0.00	439
1.60	1.09	201 1.69 0.00 1.76 1.06 1.16 1.67 7.02 2.03 5.55 9.16	1.42
205	1.40 1.40 1.130 1.130 1.73	3.45 1.94 1.85 2.42 2.83 3.04 1.66 1.58 1.58 1.96 2.61 2.28 2.28 2.29 2.29 2.29	3.84
5	0001 1000 1000 1000 1000 1000	85.7 85.7 100.0 100.0 100.0 100.0 11.4 85.7 85.7 85.7 85.7 85.7	53

PLANT NAME: Kingston (City)
PLANT TYPE: Primary

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight

GLOBAL, % PREV. 47.1 100.0 100.0 100.0 100.0 100.0 94.4 97.1 97.1 100.0 93.9 100.0 38.2 58.8 5.9 GLOBAL SPREAD FACTOR 3.00 3.60 3.49 8 8 8 9 8 E E PLANT SPREAD FACTOR 00.0 8888888888 00.00 000 000 GLOBAL GEO. MEAN 30.17 6.13 9.74 301.43 606.31 2.23 3.04 2.31.70 905.39 48.90 7312.80 116847.30 7.20 8.50 5.40 641.20 892221.45 5911.32 36897.85 6.03 82.34 32783.51 20803.05 1017341.00 GEO. MEAN 5.49 2.89 578.03 491.33 43.40 7312.10 4.62 16.19 11.56.07 6.90 6.67 34600.00 25260.10 4161.85 5751.45 27456.65 491.33 82.3 GLOBAL S. FREQ. DET. 41.2 97.9 97.9 90.0 90.0 29.4 50.0 2.0 GLOBAL PET. 13 \$456455 9 52 4 38 GLOBAL. SAMPLES 2000 9 0 51 3 5 FLANT & FREQ. 0.001 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 0.001 PLANT DET. SAMPLES PLANT. UNITSQA/QC PLANT PLANT (DRY CODE MIN. CONC. MAX. DET. WEIGHT) > DL CONC. 1 1017341.00 1017341.00 2 25260.10 25260.10 43,40 34600.00 1156.07 491.33 5.49 2.89 578.03 491.33 1.40 6.90 1.80 4161.85 5751.45 27456.65 92.49 7312.10 6.67 43.40 34600 00 20809.25 4.62 16.19 1156.07 491.33 5.49 2.89 578.03 491.33 1.40 6.90 1.80 7312.10 5751.45 92.49 27456.65 6.67 4161.85 m m ug/kg 1 HEAR HEAR HEAR HEAR TAN THE WASH ug/kg ug/kg BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS 24.5-TRICLORPHENOXYACETIC ACID 24-DICHLOROPHENOXYACETIC ACID HEPTACHI, ORODI BENZODIOXIN CHEMICAL OXYGEN DEMAND AMMONRUM, TOTAL, FILT, REAC. NITROGEN TOT: KJEL, UNF.TOT OCTACHLORODIBENZOBIOXIN OCTACHLORODIBENZOPURAN XICDBM CHLORODIBROMOMETHANE RESIDUE, TOT LOSS ON IGNI. SH, VER, UNFILL TOTAL
ALUMINUM, UNFILL TOTAL
ARSENIC, UNFILL TOTAL CHROMIUM, UNFILL TOTAL. STRONTIUM, UNFILT TOTAL CADMIUM, UNFILT, TOTAL MERCURY, UNITILITY TOTAL SELENIUM, UNFILT TOTAL CONTAM: CONTAMINANT NAME INANT COPPER UNFILL TOTAL VOLATILE ORGANIC COMPOUNDS PESTICIDES, HERBICIDES, PCBS ANC, UNITIT TOTAL PHENOLICS (4AAP) (LOGOTH(CONCN)) RESIDUE, TOTAL DIOXINS AND FURANS M-CRESOH, PHENOL CONVENTIONALS PMMCRE METALS COD NNHTIPR NNTKUR P97CDD P98CDD RST OF P32AST P32AD AGUT ASUT COUT CRUT HOUT CULT SRUT

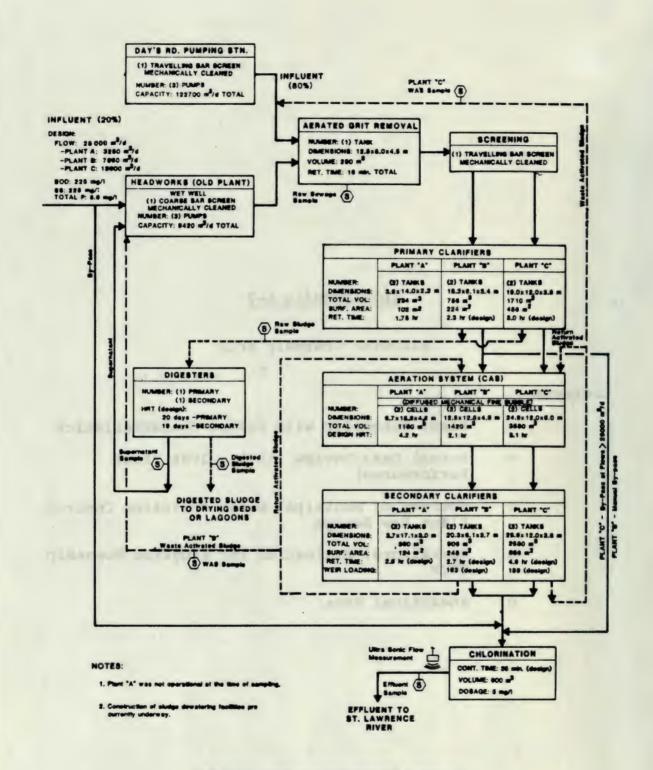
CONTEMM.         CONTEMMENT NAME         UNITEGRACE PLANT           INANT         (DRY CODE MIN. CON           CONVENTIONALS         DL.           CONVENTIONALS         CODE MIN. CON           COD         CHEMICAL OXYGEN DEMAND           COD         MERGITA           AMMONIUM, TOTAL FILT REAC.         MERGIN           NYRTKER         NYRACGEN TOT KABL, UNF. TOT           NYRTKER         NYRACGEN TOT KABL, UNF. TOT           NYRACGEN TOT KABL, UNF. TOT         MERGIN           NYRACGEN TOT         MERGIN           NYRACGEN TOT         MERGIN	AUC PLANT						SAMPLE FURNI			E			
CAL OXYGEN DEMAND make NRIM,TOTAL FILT REAC. make THS,TOTAL FILT REAC. make GHY TOTAL FILT REAC. make HC(CONCN) MAKE MAKE MAKE	ODE MIN. CO.	FLANT IC, MAX, BET, CONC.	FLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL.	GLOBAL # PET	GLOBAL. * FREQ. DET.	PLANT GEO. MEAN	GLOBAL, GEO, MEAN	PLANT SPREAD FACTOR	GLORAL SPREAD FACTOR	GLOBAL.
PILT REACT MAKE HILT REACT MAKE HILT REACT MAKE HILTOT MAKE MAKE MAKE MAKE													
FULT REAC. mg/kg.  H.I. REAC. mg/kg.  H.UNPITOT mg/kg.  mg/kg.		2760.08	-		0.001	36	36	0.001	2760.08	SOR097 94	0.00	4.65	100.0
ALAUNETOT MARK MARK MARK MARK MARK MARK MARK MARK		711911.09			0.001	25	25	0.001	7898.09	1765R 2R	0.00	2.92	100.0
m A m	0 33970.28	33970.28			100.0	97	23	100.0	33970.28	18404 12	00.00	2.30	0.86
mg/kg		6.97		_	1000	47	47	100.0	6.97	7.17	080	8:	100.0
		110.40			0 001	49	14 5	113.7	110.40	43.05	000	3.14	R7.9
RESIDUE, TOTAL MARKE OR SON IONE MARKE	0 22400 00	22400.00			1000	\$ 05	20	0 001	22400.00	43379.33	0.00	3.19	100.0
mg/kg		74 31	_	-	100 0	44	44	0.001	74.31	37.78	00'0	2.33	100.0
AI. mg/kg	1740	17409.77	, ma	-	0 00 1	20	9	100 0	17409.77	10715.94	0.00	2.82	0.001
mente		4 94			0 001	05.0	94	0 86	5.94	5.40	000	2.06	97.1
	18 24 0	618.71			0 000	30	30	0 000	955.41	333.00	800	200	0.000
a space		1 70			0.001	50	0 0	OKU	170	3.24	88	2.16	0.001
me/ke	2.	276.01			0.001	40	49	0.86	276.01	196.62	000	2.46	07.1
YTAI. mg/kg	11.5 0	5.31	-	_	1000	90	4 80	0 %	5.31	2.67	00.0	2.98	97.1
J. mg/kg		594 48	_	-	0 001	20	90	100 0	594.48	240 93	000	2.54	100.0
	0 540.79	530.79	_	_	0 001	05	90	0 001	530.79	988.90	0.00	2.57	100.0
BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS													
PHINANTHENE	1 14849,30	14849.30	-	-	100.0	90	12	24.0	14849.30	2220.50	0.00	4.27	26.5
DIOXINS AND PURANS													
HEPTACHEORODHRENZODIOXIN USAS CKTACHEORODHRENZODIOXIN USAS	1 5.90	1.40			100.0	\$ \$	10 26	20.4 53.1	5.90	5.00	0000	3.21	23.5
PESTICIDES, HERBICIDES, PCBS													
ALPHA BHC(HEXCHLORCYCLIEXANE) ugAs	1 4 20	4.20	yna	-	100.0	90	Ξ	22.0	4.20	9:60	0.00	3.00	32.4
DRCYCLJIEXANE)	1 14 90	_	-	-	0.001	20	61	38.0	14.90	8.80	0000	4.39	47.1
	1 4 20				0.000	50	22	2 3	4.20	6.50	0000	7.48	55.9
GAMMA (TII OKDANE)	31 30		-		000	000	17	0.0%	21.20	34.10	000	4.42	38.2
# 4Van	3 8.50	N.50			1000	200	. 0	18.0	8.50	4.70	000	2.20	23.5
4/45					0.001	90	34	C No	4.20	11.10	0.00	2.72	73.5
ICI ORPHENOXYACETC ACID	36		-	_	100.0	90	91	32.0	360.90	84.40	000	313	41.2
B OROTHENOXYAGETIC ACID MAKE	3 679.40	679.40	→ •		1000	90	25	0.0%	679.40	75.00	0000	5.R1	25.7
SHAPE A SHOP OF CHAPTENESS AND A SAME AND A					0 001	90	E s	0.0%	27.60	36.70	880	2.76	23.5
a A van	2 R 50				1000	30	21	42.0	8.50	7.00	000	2.96	55.9

## Sub-Appendix A-9

## Kingston Township WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
  - o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- O Operational Evaluation for Kingston Township WPCP
  - o Analytical Data



# KINGSTON TOWNSHIP WPCP

KINGSTON TOWNSHIP WPCP Conventional Activated Sludge Phosphorus Removal - Continuous Capacity - 25.883 18(3)#3/day

		1	8 H 8 0	:	4 8 2 0	MEAN
PARAMETER	1981	1982	1983	1984	1985	AVERAGE
Rvg. Daily Flow (1888 e3/day)	15.97	16.56	16.25	15.57	16.36	16.14
BODS - Influent (mg/L)	275.25	186.75	186.33	208.17	236.83	218.67
ROD5 - Effluent (mg/L) Annual BOD5 Significantly Different from Mean	12.52	9.39	11.55	10.88	18.79	11.03
Annual Average BOD5?	N	N	, N	N	: N :	
ISS - Influent (mo/L)	344,58	214.88	139,75	162,58	312.58	234,68
ISS - Effluent (mg/L) Annual ISS Significantly Orfferent from Mean	13.02	7.93	8.63	9.14	8.58	9.46
Annual Average ISS?	N	1 N	. N	N	N 1	
otal P - Influent (mg/L)	18.61	7.45	5.46	6.31	6.27	7.22
Total P - Effluent (mg/L) Annual TP Significantly Different from Mean	1.07	8.92	8.92	8.91	8.89	8.94
Annual Average TP? TP in Compliance?	N	N Y	. N	N Y	N I	٧

I.D. - Insufficient Data

# SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

## GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP	KINGSTON TOWNSHIPWI
WORKS NUMBER TREATMENT TYPE	110000365 CONVENTIONAL ACTIVATED SLUDGE
TREATMENT TIPE	PHOSPHORUS REMOVAL CONTINUOUS
DESIGN CAPACITY (1000 m3/d)	25.003
1986 AVERAGE DAY FLOW (1000 m3/d)	
POPULATION SERVED	18700
OR MOMAL ELON AMMEDIBLIMED MO.	
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	4
COMMERCIAL SOURCES (%)	
(Population x 0.0757)	8
PROTECTAL COURCES (0)	
RESIDENTIAL SOURCES (%) (Population x 0.175)	18
(Fopulation x 0.175)	10
UNACCOUNTED FOR, INCL. INFILTRATIO	N 71
(100-% Contributed from	
industrial, commercial and	
residential sources)	
PROFILE OF INDUSTRIES IN CATCHMENT	
TOTAL NO OF INDUSTRIES	55
INDUSTRIES WITH WATER	24
NO OF SIC CATEGORIES	19
1 5 1 1 10 1 22 1 02 1 02	

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	SIC	# OF COMPANIES
COPPER FORMING PLASTICS, RESINS AND SYNTHETICS	3351-335 2821-282	
FIBERS MFG	3271-327 3500-359	3 4
CEMENT MFG MACHINERY MFG PLASTICS MOLDING	3070-307	

## OPERATIONAL EVALUATION FOR: KINGSTON TOWNSHIP WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: May 24,1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 25,000 m3/d

11				PRE-SAN	PLING PERI	OD		
11	PARAMETER :	DAY 1 :	DAY 2 1		DAY 4			DAY 7
11	RAW SEWAGE FLOW	15,820	15 110 !	14.920 !	14,810	14.450 !	14.450 1	14,450
11	ANN SERNOL TEDW	10,020	101110	141/20	17,010	11,100 1	17,100 1	14,150
11	% of Design Flow	63.28%	60,447;	59.6811	59.24%	57.80%	57.80%	57.80%
11	1	1	1	1	1	}	1	1
11-								
2 2	Influent BDD (mg/L) :	1	180 ;	1	378 :	1	3 8	1
11	Primary BOD (mg/L)	3 2	1	3 1	149 ;	1	1	9
F 8	Secondary BOD (mg/L) :	8 0	4 1	1	5 1	1	1 2	1
11	2 PRIMARY REMOVAL	;	1	1 2	60.6 :	1	8	1
11	I SECONDARY REMOVAL	1	97.8 1	1 1	98.8 :	1	9 8	;
11-								
11	Influent SS (mg/L)	2 1	241	1	581 (	1	1 1	1
8 8	Primary SS (mg/L)	9	3	1	50 1	8	1 2	3
11	Secondary SS (mg/L)	1	3 1	3 2	6 1	1	1	1
2 2	2 PRIMARY REMOVAL	8	1	2 2	91.4	1	*	
11	1 SECONDARY REMOVAL	i	98.8 :	1	99.0 !	1	1	1
11-	***************************************	;						
3 8	Influent NH4 (mg/L)	1	19.5 1	1	1	3		
11	Primary NH4 (mg/L)			1	1		1	1
1 1	Secondary NH4 (mg/L)	1	5.6	1	1	1	1	8
0 0	7 PRIMARY REMOVAL	1		1	1		1	
11	% SECONDARY REMOVAL	i	71.3 !	2	1		1	1
11-								
3 3	Influent TKN (mg/L)	i	44.0 1	i	i	i	i	3
11	Primary TKN (mg/L)	i	i	i	i	i	i	
	Secondary TKN (mg/L)		8.0 :	i		i	i	
11	2 PRIMARY REMOVAL	i	i		i	i	i	1
11	% SECONDARY REMOVAL		81.8	i	i	i	i	
ii*	Influent Total D (and)		0.7.1	10.7	;	10.0.1	1	
8 8	Influent Total P (mg/L)	3	8.7 !	10.7	i	10.0	i	i
11	Primary Total P (mg/L)	1	0.45	0.46 :	i	1 15 1	i	i
2 2 3 3 3 8	Secondary Total P (mg/L)	i	0.43 ;	U. 40 i	i	1.15	i	i
11	% PRIMARY REMOVAL		04.0	0F 7	i	00 5	3	
	% SECONDARY REMOVAL		94.8 1	95.7 :	i	88.5	i	i :::::::::::

### OPERATIONAL EVALUATION FOR: KINGSTON TOWNSHIP WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: May 24,1987

SAMPLING SEASON:

Summer (Warm Weather)

DESIGN AVE FLOW: 25,000 m3/d

11		PRE-SAMPLING PERIOD :													
11	PARAMETER	DAY B	DAY 9		DAY 11			DAY 14							
	RAW SEWAGE FLOW	15,020	15,010	14,520		15,610	:	15,610							
3 2 3 2 3 2 1 3	% of Design Flow	60.08%:	60.042	58.08%	65.00%1	62.44%	62.44%	1							
	Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL	}		1	334 : 214 : 4 : 35.9 : 98.8 :	,									
	Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL	;			240 : 57 : 4 : 76.3 : 98.5 :	1	1	1							
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL			1				1							
3 3 2 8 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) % PRIMARY REMOVAL % SECONDARY REMOVAL			1		1	2 2 2 3 3 1	; ;							
	Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL		0.63	,		 	; ; ;	;							

## KINGSTON TOWNSHIP WPCP

TREATMENT FACILITY: Secondary PERIOD ENDING: May 24,1987
SAMPLING SEASON: Summer (Warm Weather).
DESIGN AVG FLOW: 25,000 m3/d

DE210W	MAD	LTOM:	23,000	<b>B</b> 3/ <b>U</b>

8.8								1
11				SAMP	LING PERIO	D		1
11	PARAMETER	DAY 15	DAY 16 1	DAY 17	DAY 18 :	DAY 19	DAY 20 1	DAY 21
11		1	1	1	1	1	;	1
11	RAW SEWASE FLOW	15,410 1	15,190 ;	15,350 :	14,620 :	15,420	15,420 }	15,420
2 2	1		1				;	
1 1	% of Design Flow	61.64%	60.76%	61.40%;	58.48%	61.68%	61.681	61.68%;
2 2			1	8	1	3	1	1
11								
11	Influent BOD (mg/L)			i	i	i	i	1
11	Primary BOD (mg/L)		5	i	i		i	;
1 1	Secondary BOD (mg/L)		i	i	i	i	i	1
11	Z PRIMARY REMOVAL		i	i	i		i	i
11	Z SECONDARY REMOVAL			i	i	i	i !	
11	Influent SS (mg/L)			1			,	
11	Primary SS (mg/L)	1	1	3				
11	Secondary SS (mg/L)	1			1			1
1 1	% PRIMARY REMOVAL	, 1		1			1	:
1.1	I SECONDARY REMOVAL	1 1						
11-	& DECUMPANT REPORKS			!				!
11	Influent NH4 (mg/L)							
11	Primary NH4 (mg/L)							;
11	Secondary NH4 (eg/L)			i				
11	I PRIMARY REMOVAL							
11	% SECONDARY REMOVAL							
11-								
1 2	Influent TKN (mg/L)							1
11	Primary TKN (mg/L)	5						3
11	Secondary TKN (mg/L)	2		1				1
7 3	% PRIMARY REMOVAL	1						1
11	% SECONDARY REMOVAL	1						1
11-		}						
8 B	Influent Total P (mg/L)	3	4.3	1		4.4		8 2
1 8	Primary Total P (mg/L)	!		3 9			:	;
-11	Secondary Total P (mg/L)	1	0.95	1	1	0.60		1
2 8	2 PRIMARY REMOVAL	1		1			1	:
1 1	% SECONDARY REMOVAL	3 1	77.9			86.4		1

PLANT NAME: Kingston Twp PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

Comparison   Com	ECOMPOUNDS  COMPOUNDS  COMPOUNDS  COMPOUNDS  CACID  EMPL  0  1000	498.00 1260.00 67.00 42.50 80.00 7.18 541.00 1.60 1.60 1.60 1.60 1.60 1.60 1.60		Artista mar - Ve	335.92 964.29 44.94 33.34 56.07 7.02 490.04 170.00 170.00 280.00 280.00 280.00	140,23 287,75 22,39 15,37 25,44 6,90 126,88 0,31 0,05 1000,10 110,60 0,23 370,70	131 131 135 136 137 272 272 272 272 272 137 137	1.93 1.81 1.81 1.83 1.05 1.05 2.23 2.23 2.23 2.24 2.24 2.24	100.0 100.0 100.0 100.0 100.0 100.0 17.3 97.3 97.3
Household Decay Control Decay   Household Deca	ROD, S DAY - TOTAL DEMAND	498.00 1266.00 67.00 42.50 80.00 7.18 541.00 1.60 170.00 170.00 170.00 170.00 170.00 70.00 70.00			333.92 964.29 44.94 33.34 58.07 7.02 49.04 0.52 0.04 170.00 170.00 0.80 1700.00 280.00 280.00 280.00	140.23 287.75 22.39 15.37 25.44 6.90 126.88 0.03 1000.10 110.60 0.23 370.70	131 131 135 136 131 131 222 222 222 200 137 139 139	1.82 1.82 1.83 1.69 1.03 2.03 2.23 2.23 2.24 2.24 2.24	100.0 100.0 100.0 100.0 100.0 100.0 100.0 97.3 97.3 97.3
New Colon	BOD. 5 DAY - TOTAL DEBAND   mg/L   0   235.00	2900000 10000 100000 100000 100000 100000 100000 1000000			335.92 996.29 44.94 33.34 86.07 7.02 499.04 0.52 0.04 170.00 170.00 280.00 280.00 280.00	140,23 287,75 22,39 15,37 25,44 6,90 126,88 0,31 1000,10 1000,10 110,60 0,03 370,70	131 135 116 117 117 113 137 159 1105	1.93 1.82 1.83 1.68 1.47 1.05 2.05 2.05 2.11 2.14 2.14 2.14	100.0 100.0 100.0 100.0 100.0 100.0 37.4 32.4 97.1 100.0 100.0
Colored Colo	CHEMICAL OXYGENON  THE CONTROL OXYGENON  THE CONTROL FILTHEAC.  THE CONTROL TOTAL  THE CONTROL FILTHEAC.  THE CONTROL TOTAL	256000 42.50 42.50 80.00 7.18 541.00 1.160 1.00 1.0			964.29 44.94 33.34 36.07 7.02 490.04 0.52 0.04 170.00 170.00 280.00 280.00	287.75 15.39 15.37 25.44 6.90 12.88 0.31 0.05 1000.10 110.60 0.23 370.70	131 116 116 113 113 272 272 272 3.04 139 139 139	1.82 1.69 1.69 1.03 2.05 2.03 2.03 2.11 2.14 2.14	100.0 100.0 100.0 100.0 100.0 37.4 32.4 97.1
MACHING CONTOLNET ERFC.   mark   0	RESIDENTIAL FILTELLAND   REAL   1500	42.50 80.00 7.18 541.00 1.60 0.30 20000.00 1.60 1.60 1.60 1.60 70.00 70.00 20.00			13.34 36.07 70.02 49.004 0.52 0.04 170.00 1700.00 280.00 280.00	12.37 12.37 25.44 126.88 0.31 0.05 110.00.10 110.60 0.23 370.70	116 116 113 113 113 113 113 113 113 113	2.05 2.05 2.05 2.05 2.05 2.05 2.05 2.05	97.3 97.3 100.0 100.0 100.0 100.0 100.0 100.0
CONTINUES   CONT	NITRATES, TOTAL, FULLY,   NITRATES, TOTAL,   NITRATES, TOTAL,   NITRATES, TOTAL,   NITRATES, TOTAL,   NITRATE, NITRAL, N	22.00 80.00 7.18 541.00 1.60 0.30 1.60 0.30 1.60 1.60 1.60 70.00 70.00 20.00			25.07 7.02 49.04 0.52 0.04 170.00 170.00 280.00 280.00 280.00	13.57 25.44 6.90 126.88 0.05 0.05 1000.10 110.60 0.23 370.70	1.13 1.02 1.13 2.72 2.72 2.04 3.04 1.37 1.39 1.05	1.05 1.03 1.03 2.03 2.23 2.28 2.28 2.24 2.24	100.0 100.0 100.0 37.8 32.4 97.3 97.1 100.0
COMPILIARIZATOTAL PATRIACE   Nat.   Compiliaries	CLOGGH+(CONCIN)	29000000 1.60 1.60 1.60 1.60 1.60 1.60 1.6			7.02 490.04 0.52 0.04 170.00 0.80 1700.00 280.00 280.00 280.00	6.90 126.88 0.31 0.05 1000.10 110.66 0.23 370.70	1.02 1.13 2.72 2.72 3.04 1.33 1.39 1.05	1.03 1.03 2.05 2.05 2.28 2.28 2.24 2.24	97.3 97.3 97.3 97.3 100.0
HEROILE, MATICUARTH   Mg	RESIDUE, PARTICULATE	29000.00 1,60 1,70,00 1,70,00 1,800,00 410,00 70,00 20,00			490.04 0.52 0.04 16760.00 1700.00 280.00 280.00	126.88 0.31 0.05 1000.10 110.60 0.23 370.70	1.13 2.72 3.04 3.04 1.37 1.59 1.05	193 205 205 205 211 211 214 224	97.3 97.3 97.3 97.3 100.0
NITRATISTOTAL PLITERAC.   mgf. 0 139 1460 5 1 1 200 223 306 324 102 004 105 314 235 314 315 314 315 315 315 315 315 315 315 315 315 315	L	29000.00 170.00 170.00 1800.00 410.00 70.00 30.00			0.52 0.04 16760.00 1700.00 280 1700.00 280 280 200.00	0.05 0.05 1000.10 110.60 0.23 370.70	2.72 3.04 1.37 0.00 1.59 1.05	205 205 214 214 214 214	97.3 97.3 97.1 100.0 100.0
ALDININUMINARILITOTAL  WELL 0 1200000 200000 6 6 1000 332 306 950 1676000 1000.10 137 255  COMPANILITOTAL  WELL 0 170000 170000 1 1000 0 49 48 990 170000 1000 0 228  WELL NUMBER TOTAL  WELL 0 170000 16000 6 1 1000 0 319 318 990 17000 17000 1700 0 228  WELL NUMBER TOTAL  WELL 0 170000 16000 6 1 1000 0 319 318 990 17000 1700 0 329  SIMPRUMINARILITOTAL  WELL 0 170000 16000 6 1 1000 0 319 318 990 1700 0 319 319 318 990 1700 0 319 319 318 990 1700 0 319 319 319 318 990 1700 0 319 319 319 319 319 319 319 319 319 319	ALUMINUM, UNFILT. TOTAL  COPPER, LUNFILT. TOTAL  STRONTIUM, UNFILT. TOTAL  STRONTIUM, UNFILT. TOTAL  CORALI, TUNFILT. TOTAL  CORALI, TUNFILT. TOTAL  CORALI, TUNFILT. TOTAL  CORALI, TUNFILT. TOTAL  SILVER, UNFILT. TOTAL  A ALPHA-CHEROROPH BROXY AGETIC ACID  SILVER, UNFILT. TOTAL  A ALPHA-CHEROROPH BROXY AGETIC ACID  SILVER,  A ALPHA-CHEROROPH BROXY AGETIC ACID  SILVER,  A ALPHA-CHEROROPH BROXY AGETIC ACID  SILVER  BELDERIN  SILVER  A ALPHA-CHEROROPH BROXY AGETIC ACID  SILVER  A HEXACHLOROPH BROXY AGETIC ACID  SILVER  A SILVER  A SILVER  CARAMA-CHILOROPH BROXY AGETIC ACID  SILVER  A ALPHA-CHEROROPH BROXY AGETIC ACID  SILVER  A SILVER  A SILVER  A SILVER  A SILVER  A ALPHA-CHEROROPH BROXY AGETIC ACID  SILVER  A SILVE	29000.00 170.00 1.60 1.60 1800.00 70.00 20.00			16760.00 170.00 0.80 1700.00 280.00 20.00	1000.10 110.60 0.23 370.70	137 0.00 1.59 1.05	2.65 2.28 2.11 2.214 2.294	97.3 97.1 100.0 100.0
COPPERINTENTIAL WAY 0 170000 6 6 1000 322 306 950 100010 137 256  COPPERINTENTIAL WAY 0 17000 170000 6 6 1000 312 316 950 100010 137 256  STREWNINGWORTH TOTAL WAY 0 17000 170000 6 1000 319 318 957 70000 100010 137 254  STREWNINGWORTH TOTAL WAY 0 17000 11000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1000 1 1 1 1000 1 1 1 1000 1 1 1000 1 1 1 1000 1 1 1 1000 1 1 1 1000 1 1 1 1000 1 1 1 1000 1 1 1000 1	ALUMINUM, UNPIL, TOTAL  COPPER, LUNPIL, TOTAL  NEGURY, UNPIL, TOTAL  NEGURY, UNPIL, TOTAL  STRECLEN, UNPIL, TOTAL  STRECLEN, UNPIL, TOTAL  STRECLEN, UNPIL, TOTAL  NALL  STRECLEN, UNPIL, TOTAL  NALL  NALL  NALL  STRECLEN, UNPIL, TOTAL  NALL  STRECLEN, UNPIL, UNPIL, UNPIL, UNPIL  STRECLEN, UNPIL, UNPIL, UNPIL  STRECLEN, UNPIL, UNPIL  STRECLEN, UNPIL  STREC	29000.00 170.00 1.60 1800.00 410.00 70.00 20.00			16760.00 170.00 0.80 1700.00 280.00	1000.10 110.60 0.23 370.70	1.37 0.00 1.59 1.05	258 228 211 214 224	97.3 97.1 100.0 100.0
ACHEROLIUS COMPOUNDS  ACHIEVATION  ALTO COMPOUNDS  ALTO COMPOU	ALUMINUM, UNFILT, TOTAL	29000.00 170.00 1.60 1.60 1800.00 410.00 70.00 20.00			16760.00 170.00 0.80 1700.00 280.00	1000.10 110.60 0.23 370.70	1.37 0.00 1.59 1.05	265 228 211 214 294	97.3 97.1 100.0 100.0
COMATINEDISCRIPE         W. T. O. TOWN OF THE COMPOUNDS         TOWN OF TOWN OF THE COMPOUNDS         TOWN OF THE COMPOUNDS<	COPPER, UNFILT, TOTAL  WIRECURY, UNFILT, TOTAL  STRECURY, UNFILT, TOTAL  STRECURY, UNFILT, TOTAL  COBALT, UNFILT, TOTAL  CADMIUM, UNFILT, TOTAL  SILVER, UNFILT, TOTAL  SILVER, UNFILT, TOTAL  WIRL  SILVER, UNFILT, TOTAL  WIRL  CADMIUM, UNFILT, TOTAL  WIRL  COMMIUM, UNFILT, TOTAL  WIRL  CADMIUM, UNFILT, TOTAL  WIRL  WIRL  CADMIUM, UNFILT, TOTAL  WIRL  WIRL  WIRL  CADMIUM, UNFILT, TOTAL  WIRL  WI	170,00 1,60 1,800,00 410,00 70,00 20,00 30,00			170.00 1700.00 280.00 280.00	0.23 370.70	0.00 1.59 1.05	2 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	97.1 100.0 100.0 100.0
MACRISOL	MURCURY UNFILITIOTAL   ug/L   0   0.49	1.60 1800.00 410.00 70.00 20.00 30.00			0.80 1700.00 280.00	370.70	1.05	214	100.0
STRECHMENT TOTAL    March   Ma	STRONTHAM JUNEAL TOTAL   ug/L   0   100.00	1800.00 410.00 70.00 20.00			280.00	370.70	1.05	294	100.0
COMATIVINITY TOTAL WILL STATES OF ST	COMPACTION CONTROL   UNIT   CONTROL	70.00 20.00 30.00			20.00		1.24	2.94	100.0
CADMIUM UNPIL'TOTAL.  ULTRALAND ACID EXTRACTABLE COMPOUNDS  HERROLD EXTRACTABLE COMPOUNDS  HE	CADMIUM,UNFILT.TOTAL   ugh. 0   10.00	30.00				00.112	100		818
MICHEALL LOTAL   Map. 0   50.00   50.00   0   1   16.7   321   82   25.6   10.00   10.40   2.08   2.55	NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	30.00			10.00	6.50	1.74	209	70.3
M-CRESOL	M-CRESOL				10.00	10.40	208	57	75.7
M-CRISOL	M-CRESOL								
M-CHESOL	M-CRESOL								
DES.HERBICIDES, PCBS         COMMANA. RIFICULISCAL GRANE)         LES ORGANIC COMPONDS         4         80.0         276         143         51.8         0.02         0.02         129         229           QAAMMA. RIFICULISCALI ONECYCLI EXANE)         un.L.         3         0.04	DPS,HERBICIDES,PCRS   UMA   2   0.02	758.30	4 80.0 4 80.0		192.00	25.59	6.48	3.45	86.5
DES.HER BICIDES,PCRS           GAMMA-RICHEXANE         LES ORGANIC COMPOUNDS         5         4         R00         276         143         \$1.8         0.02         0.02         1.89         2.29           24-DICHLOROPHENOXYAGHTCACID         ug/L         3         0.04         0.46         5         4         80.0         276         214         77.5         0.11         0.13         3.71         3.72         13           QAMMA-RICHOROPHENOXYAGHTCACID         ug/L         1         0.02         0.04         5         4         80.0         276         214         77.5         0.01         0.02         0.01         2.18         1.49         1.73         0.01         0.01         2.18         0.02         0.01         1.18	DES,HERBICIDES,PCBS						-		
GAMMA-BICTURINGHING         wild         2         0.02         0.03         5         4         R0.0         276         143         51.8         0.02         0.02         1.89         2.29           24-DICHI, ORDAHE         wild         3         0.04         0.46         5         4         80.0         276         214         77.5         0.11         0.13         3.71         3.72           QAMMA-BICHORDANE         wild         1         0.02         0.04         0.46         5         3         6.00         276         214         77.5         0.11         0.13         3.71         3.72           P-DINI         wild         1         0.02         0.05         5         3         6.00         276         42         1.45         1.46         1.34         1.46         1.34         1.46         1.48         1.18	GAMMA-BHCHEXCHLORCYCLHEXANE  upf. 2 0.02 2,4-DiGH.OROPHENOXYAGETIC ACID upf. 3 0.04 0.04 0.04 0.04 0.04 0.05 0.04 0.04								
SLUYER OF THE COMPOUNDS  SLUYER ALPHA-CHLOROPORM  SLUYER ALPHA-CHLOROPO	SH.VEX	0.05 0.06 0.06			0.02 0.01 0.02	0.02	1.89 3.71 2.15 1.46	2.29 3.72 1.49	1000 162 243
ALTHACHLORDANE ug/L 1 0.004 0.004 5 1 20.0 276 7 2.5 0.01 0.01 1.86 1.46  DELIDIAL CHURCHURDONYACCTICACID ug/L 2 0.03 0.03 5 1 20.0 276 8 2.9 0.01 0.01 1.83 1.28  2.4.5-TRICLORPHENOXYACCTICACID ug/L 3 0.17 0.17 5 1 20.0 276 5 1.8 0.07 0.06 3.67 1.60  HEXACHLOROCYCLORPHITADIENE ug/L 3 0.17 0.17 5 1 20.0 276 5 1.8 0.11 0.10 1.27 1.30  LES ORGANIC COMPOUNDS  CHLOROPORM ug/L 1 76.00 80.00 5 3 60.0 274 28 10.2 45.13 23.90 2.10 1.75	ALANA-CHANDANE  Ugh. 1 0.04  DIELDRICA ORPHENOXYAGETIC ACID  Ugh. 2 0.03  L45-TRICA ORPHENOXYAGETIC ACID  Ugh. 3 0.17	0.47			0.10	90.0	3.84	1.68	40.5
245-TRICLORPHENOXYACETIC ACID	24.5-TRICLORPHENOXYACETIC ACID up. 3 0.71 HEXACHLOROCYCLOPENTADIENE up. 3 0.17	0.00	1 20.0		0.01	0.01	1.86	1.46	13.5
LES ORGANIC COMPOUNDS  CHLOROPORM  ULT 1 76.00 80.00 5 3 60.0 274 28 10.2 45.13 23.90 2.10 1.75		0.71	1 20.0		0.00	90.0	3.67	9.	37.8
LES ORGANIC COMPOUNDS 45.13 76.00 80.00 5 3 60.0 274 28 10.2 45.13 23.90 2.10 1.75			0.00		1170	0.10	171	05.1	25
CHIJOROFORM UNIV. 1 76.00 80.00 5 3 60.0 274 28 10.2 45.13 23.90 2.10 1.75	LATILES ORGANIC COMPOUNDS								
	CHLOROPORM u.M. 1 76.00	80.00			45.13	23.90	2.10	1.75	32.4

	GLOBAL & FREV.		100.0							100.0				8 96.4 1 100.0 17.9		32.1
	GLOBAL SPREAD FACTOR	100	1.83	1.60	7.75	271	2.00	1.86		3.72	18.2	21		2.48 4.71 1.28		1.93
	PLANT SPREAD PACTOR	17.1	1.78	1.37	1.19	1.63	1.23	212		1.90	1.92	133		3.47		252
_	GLOBAL GEO. MEAN	1	21.22 52.80	3.90	2.33	7.97	10.12	0.07		0.03	\$3.30	6.40		0.02		1.18
: Final Effluen : Wet Weight	PLANT GEO. MEAN		39.96	10.64	17.07	12.16	4.33	90'0		0.012	40.00	10.00		0.00		151
6.3	GLOBAL % FREQ. DET.	11-11	99.1	100.0	88.2	1000	99.6	14.7		74.2	98.1	24.4		78.0 78.0 3.1		8.0
SAMPLING TYPE SAMPLE FORM	GLOBAL # DET.		211	220	194	222	224	33		196	262	29		151 771		18
SAI	GLOBAL # SAMPLES		213	220	220	222	220	225		233	267	266		727 722 721		224
	PLANT % FREQ.		100.0	100.0	100.0	100.0	100.0	20.0		100.0	100.0	16.7		100.0 80.0 20.0		20.0
	PLANT # DET.		40 NJ	જા જા	so s	s wn	w w	-		vo en v	o vo <del>«</del>	-		a) 4 =		-
	PLANT # SAMPLES		av av	જા જા	w) w	, ~	en en	wn .		10 40 1	o vo vo			મ મ મ		s.
	ANT FLANT CONC. MAX. DET. DL CONC.		13.60	7.80	0.74	24.90	5.70	0.14		980.00	130.00	10.00		0.06		7.90
	FLANT MIN. CONC. 1 > DL		4.60	6.25	0.48	6.40	3.50	0.14		180.00	20.00	10.00		0.09		7.90
on Twp	STD. REP.				,			ONT-MOR		ONT-MOE	ONT-MOR	NYS-STD		ONT-MOR ONT-MOR		NYS-GUL
PLANT NAME: Kingston Twp PLANT TYPE: Secondary	STD. FOR STD. REF. SURFACE WATER							0.00		0.50	30.00	9:00		0.00 0.00		0.70
NAM			00	00	0	00	00	0		00	000	00		3 5 -		-
TNA	CODE CODE		me.	m.A.	mg/l	mes.	Maria	5		N. S.	55	33		333		W.
14	CONTAMINANT NAME	DNALS	BOD, S DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND	DISSOLVED ORGANIC CARBON AMMONITM TOTAL, FILT, REAC.	NITRITE J'II.T. REACT.	NITRATES, TOTAL, PILT. REAC. NITROGEN-TOT-KIEL, UNP. TOT	(-LOG(IH-(CONCN))	PHENOLICS (4AAP)		ALUMINUM,UNPILT,TOTAL, MERCURY,UNPILT,TOTAL,	STRONTIUM, UNPILT. TOTAL. ZINC, UNPILT. TOTAL.	SEVERUNFELT TOTAL COBALT, UNFELT TOTAL	PESTICIDES, HERBICIDES, PCBS	GAMMA-BICCHEXCHORCYCLJEXANE) 24-DICH.OROMHNOXYACETIC ACID PP-DDE.	VOLATILES ORGANIC COMPOUNDS	TETRACHLOROETHYLENE
	CONTAM	CONVENTIONALS	8005	DOC	NNO2FR	NNTKUR	P. C.	PHINOL	METALS	ALLT	SRUT	COUT	PESTICIDE	PTRIFICO PS2AD PTPPDE	VOLATILES	XITELIX

PLANT NAME: Kingston Twp PLANT TYPE: Secondary

SAMPLING TYPE: Recycle SAMPLE FORM: Wet Weight

GLORAL S. PREV. 8488848458488 GLOBAL SPREAD FACTOR 25.13 22.13 PLANT SPREAD FACTOR 1.06 GLOBAL GEO. MEAN 28798.20 208447.60 1109443.30 110840.33 1347.00 3112.40 38.40 44.20 420 420 423 50 429.50 905.21 77.62 146.20 0.05 0.41 324.28 6.94 0.41 562.69 0.06 0.05 0.07 0.05 0.05 0.05 0.07 6.06 5770.00 2750.00 30.00 60.00 30.00 50.00 GEO. MEAN 302810.00 302810.00 3000.00 27920.00 2047.93 4694.20 98.12 243.50 0.07 0.51 579.46 7.11.93 0.10 0.13 0.05 0.06 0.06 0.07 0.07 GLOBAL % FREQ. DET. 100.0 100.0 100.0 100.0 100.0 GLOBAL DET 2624862442 GLOBAL SAMPLES 88343444444 4 5 223232332222 PLANT % FREQ. DET. 100.0 100.0 100.0 100.0 100.0 100.0 25.0 DET. SAMPLES PLANT CODE MIN. CONC. MAX. BET. 2330.00 24400.00 103.00 271.00 0.10 0.55 688.00 7.20 9200.00 290000.00 340000.00 42000.00 53000.00 9300.00 4300.00 50.00 110.00 20.00 160.00 280.00 280.00 167.20 020 020 020 020 020 020 020 020 020 840.00 30.00 30.00 30.00 10.00 40.00 1800.00 108.00 90.00 218.00 0.05 0.50 475.00 7.11 6880.00 63000.00 8300.00 0.98 44000.00 3000.00 UNITS 323233 33 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS 1,24-TRICHLOROBENZENE GAMMA-BHC(HEXCHLORCYCLHEXANE) 24-DICHLOROPHENOXYACETIC ACID ZINC,UNFILTTOTAL
ARSENIC,UNFILTTOTAL
CADMILMA,UNFILTTOTAL
SELENIUM,UNFILTTOTAL
CYANIDE-PREE,UNFILTTREAC. BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL FILT, REAC. NITRATES, TOTAL, PLI.T.RFAC. NITROGEN-TOT-KJEL, UNF.TOT MERCURY, UNFILT TOTAL MAGNESIUM, UNFILT TOTAL STRONTIUM, UNFILT TOTAL SILVIER, UNPILT, TOTAL, CHROMIUM, UNPILT, TOTAL, LEAD, UNFILT, TOTAL, ALUMINUM, UNPILT, TOTAL CALCIUM, UNFILT, TOTAL DIELDRIN HEPTACHLOR SILVEX HEXACHLOROBENZENE CONTAM. CONTAMINANT NAME. RESIDUE, PARTICULATE COPPER, UNFILT TOTAL ALPHA-CHLORDANE GAMMA-CHLORDANE NITRITE PILT. REACT. IRON, UNFILT. TOTAL PESTICIDES, HERBICIDES, PCBS (-I.OG(H+(CONCN)) PHENOLICS (4AAP) MIREX PCB, TOTAL M-CRESOL PHENOL PP-DDE PP-DDD CONVENTIONALS PMMCRE COD DOC NNIHTER NNOZER NNOTER NNTKUR PH RSP PHOOL PICHIA PICHIA PIPPOB PIPPOB PIBICG PIMEX PIPCBT PIDIEL PIREPT PSSILV XZHCB METALS INANI X2124

PLAN	PLANT NAME: Kingston T PLANT TYPE: Secondary	PLANT NAME: Kingston Twp PLANT TYPE: Secondary						SAMPL	SAMPLE FORM : Wet Weight	. Wet W	eight			
CONTAM. CONTAMINANT NAME INANT	OD STIND	UNITS QC PLANT CODE MIN. CONC.	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL.	GLOBAL	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.
VOLATILES ORGANIC COMPOUNDS												-		
XIGHO CHLOROPORM	ug/l. 1	88.00	88.00	4	-	25.0	4	-	2.3	13.70	19.32	6.55	1.66	H

PLANT NAME: Kingston Twp. PLANT TYPE: Secondary

SAMPLING TYPE: Raw Studge SAMPLE FORM: Dry Weight

GLOBAL GLOBAL SPREAD % PREV.		3.19 100.0 4.59 100.0 2.21 93.9 2.98 100.0 1.10 100.0 3.54 85.3 1.81 100.0	2.51 100.0 2.201 97.1 4.35 90.0 1.72 100.0 1.67 100.0 2.24 96.9 1.93 96.9 1.57 100.0	12,16 85.3	3.60	2.69 67.7 2.28 47.1 2.44 50.0 3.10 64.1 2.21 23.5 2.21 79.4 2.31 82.3 6.50 82.3 4.06 41.2
L PLANT SPREAD FACTOR		886666666666666666666666666666666666666	8 8 8 8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	0.00	00:00	888888888888888888888888888888888888888
GLORAL GEO. MEAN		892221.45 5911.32 25.44 36897.85 6.03 82.34 32783.51 20803.05	9835.74 6.13 9.74 9.76.31 2.23.70 905.39	116847.30	8.50	8890 8.90 6.00 7.20 4.580 887.70 7.30 9.320 6.43 6.73 6.73 6.73 6.73 6.73 6.73 6.73 6.7
L PLANT Q. GEO. MEAN		1697740.11 6892.66 14.12 46610.17 563 39.32 35400.00 25500.00	19774.01 3.11 2.06 3.38.98 3.39 1.44.07 3.67 875.71 508.47	985.90	7.30	11.30 11.30 11.30 11.30 28.20 5.60 20.60 11.30 11.30 11.30
AL GLOBAL % FREQ. DET.		100.0 97.9 89.6 100.0 100.0 100.0 100.0	100.0 93.0 93.0 100.0 100.0 98.0 100.0 100.0	82.3	90.0	25 29 29 29 29 29 29 29 29 29 29 29 29 29
AL GLOBAL # ES DET		\$ 4 \$ 2 \$ 4 2 2	28 8 8 8 8 8 15 12 12 12 12 12 12 12 12 12 12 12 12 12	2	22	28 1 19 19 19 19 19 19 19 19
T GLOBAL Q. #		, \$ # # 2 2 2 5 2 2	2 2 4 4 6 6 8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	15	90	******
T PLANT % FREQ.		100.0 100.0 100.0 100.0 100.0 100.0 100.0	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	100.0	100.0	100.00 100.00 100.00 100.00 100.00 100.00 100.00
T PLANT # .ES DET.				-	-	
IT PLANT FET. #		0000372001	21.88.00	06	1 1	2330
T PLANT ONC, MAX. DET.		11 1697740.11 6 6892.66 14.12 7 46610.17 3 563 59.32 0 35400.00 0 25500.00	11 19774.01 10 206 206 206 206 206 206 206 206	985:90	30 7.30	90 11.30 90 11.30 90 11.30 10.30 80 42.40 20 28.20 860 28.20 860 28.37 11.30 1
UNITSQA/QC PLANT (DRY CODE MIN. CONC. (EIGHT) > DL		0 1697740.11 0 6892.66 0 14.12 0 46610.17 25.63 0 35400.00 0 25500.00	0 19774.01 0 206 0 338.98 0 144.07 0 145.07 0 875.71 0 508.47	1 985.90	1 7.30	2 11.30 1 1.30 2 2 42.40 1 28.20 3 560 2 423.70 1 11.30 3 200.60
UNITSQA (DRY CC WEIGHT)				a Aka	8 y 8 n	HEXANE) uarks uarks uarks uarks uarks uarks uarks uarks uarks
CONTAM: CONTAMINANT NAME.	HONALS	CHEMICAL OXYGEN DEMAND AMMONIUM TOTAL FILT REAC. NITRA TES, TOTAL FILT REAC. NITROGEN TOT KIE, UNF. TOT (LOCKH-KONCN)) PHENDLICS (AAAP) RESIDUE, TOTAL. RESIDUE, TOTAL.	NALT ALLMENUM, UNFILTTOTAL MEGA SEUT CADMILM, LINFILTTOTAL MEGA CONFER, LINFILTTOTAL MEGA CONFER, LINFILTTOTAL MEGA CRUT CONFRE, UNFILTTOTAL MEGA CRUT LEAD, UNFILTTOTAL MEGA SEUT STEONTHIM, UNFILTOTAL MEG	MANGER M.CRESOL. DIOXINS AND FURANS	99CDD OCTACH ORODIBENZODIOXIN PESTICIDES, HERBICIDES, PCBS	GAMMA-BHCHEXCHLORCYCLHEXANE) 44/Kg ALPHA-CHLORDANE 44/Kg GARMA-CHLORDANE 44/Kg DH-LDRIN 44/Kg ENDRIN 44/Kg PC-B, TOTAL 44/Kg SH-DDE 24-DIGHLOROPHENOXYACETIC ACID 44/Kg SH-DDE 44/Kg
CONTAM- INANT	CONVENTIONALS	COD NNUTTER NNUTTER NNUTTER PI PINOL RST RST OI RST OI	ALUT ASUT COUNT COUNT HEAUT PRUT SHUT SHUT ZNUT	PMMCRE DIOXINS A	P98CDD	PIBHCO PICHIA PICHIA PIDHEL PIEMPTE PIEMPE PIEMPE PIEMPE PIEMPE PIEMPE PIEMPE PIEMPE PIEMPE PIEMPE PIEMPE PIEMPE PIEMPE PIEMPE

SAMPLING TYPE: Treated Studge	SAMPLE FORM : Dry Weight	
PLANT NAME: Kingston Twp.	PLANT TYPE : Secondary	

CONTAM.	- CONTAMINANT NAME	UNITSQA/ (DRY COI WEIGHT)	UNITSQA/QC PLANT (DRY CODE MIN. CONG. EIGHT) > DL	PLANT CONC.	FLANT # SAMPLES	FLANT	PLANT % FREQ. DET.	GLOBAL. # SAMPLES	GLOBAL.	GLOBAL, S. FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLORAL. S. PREV.
CONVEN	CONVENTIONALS														
COD	CHEMICAL OXYGEN DEMAND	mg/kg 0	1223	1223602.48	-	-	0.001	36	36	100.0	1223602.48	508097.94	0.00	4.65	100.0
NNO.II-R	NITRATES, FOTAL FILT. REAC.			25.88	-	400	100.0	26	23	88 5	25.88	42.68	000	2.29	95.0
NNTKCK	NITROGEN TOT KIEL UNP. TOT		486	48654.24	-	-	1000	49	49	100 0	48654.24	38494.12	000	1.77	100.0
PAINO	(LOXIII(CONCN))	make o	11801	118.01			000	4 4 7	47	100.0	7.33	71.17	0.00	60.	0.001
RST	RESIDENT TOTAL	me/ke	4	4830000			0 001	6	; \$	1000	4830000	80474 OA	000	3.14	0 00 I
RSTLOI	RESIDUE TOT LOSS ON IGNI.	mg/kg 0		29000.00		-	0.001	20	20	100.0	29000 00	43379.33	0.00	3.19	100.0
						•									
METALS															
ACHIT	SH VER UNFILT TOTAL	me/ke 0	14.49	14.49	-	-	100.0	4	44	100.0	14.49	17 78	000	2.18	0001
ALL	ALUMINUM, UNFILT TOTAL	me/kg 0	434	43478.26		-	100.0	20	20	100.0	43478.26	10715.94	00.00	2.82	1000
ASUT	ARSENIC, UNPILIT TOTAL.	mg/kg 0		3.11	_		100.0	90	49	0.86	3.11	5.40	00.00	2.06	97.1
CDUT	CADMIUM,UNFILT.TOTAL			3.73	-	-	0.001	4.5	41	91.1	3.73	10.47	00.00	3.98	90.3
COUT	COBALT UNFILT FOTAL	mg/kg 0		3.73	~	-	100.0	39	32	82.1	3.73	9.14	00.00	2.75	85.7
CRUT	CHROMIUM, UNPILT: TOTAL			78.67	-	-	0.001	20	20	100.0	78.67	333.06	00.00	3.59	100.0
CULT	COPPER, UNFILT TOTAL		3	331.26	-	-	0.001	45	45	100.0	331.26	732.24	0.00	2.16	1000
101	MERCURY, UNFILT TOTAL			1.24	_	_	0.001	20	49	0.86	77	3.24	00'0	2.04	97.1
LIN	NICKEL, UNFILL TOTAL	make o	13.11	15.11			0.001	45 65	42	93.3	13.11	72.93	0.00	2.95	0.06
CELT	SELENITALINISI TECTAL	TO CO		766			0.001	00 5	4 4	0.00	7.66	36.04	0.00	306	200
SRIT	STRONTHIM HINPILT TOTAL	O sylven	1366.46	1366.46	-		1000	9 95	95	100.0	1366.46	240 93	000	2.56	1000
TINZ	ZINC,UNHI, L'TOTAL.	me/kg 0	786.75	786.75	_	-	0.001	20	20	100.0	786.75	988.90	0.00	2.57	100.0
	PESTICIDES, HERBICIDES, PCBS														
PICHA	ALPHA-CHLORDANE	ug/kg 1	10.40	10.40	-	-	100.0	90	22	44.0	10.40	6.50	0.00	2.41	98.9
PICHO	GAMMA-CHLORDANE	ug/kg 1	10.40	10.40	quest	-	100.0	90	21	45.0	10.40	6.80	00.00	2.58	52.9
PIDIFI.	DIFLURIN	ug/kg 2	20.70	20.70	-	-	100.0	50	15	30.0	20.70	6.50	0.00	3.51	38.2
PHHEPE	HEPTACHE OREPOXIDE	ug/kg 2	6.20	6.20		-	100.0	20	10	20.0	6.20	5.20	0.00	2.86	23.5
PIPCBT	K'B, TOTAL.	ug/kg 2	372.70	372.70	-	-	0.001	20	32	64.0	372.70	114.10	000	4.58	67.7
PIPPYDE	PP DDE	ug/kg 1	10.40	10.40	_	-	100.0	20	**	0.89	10.40	11.10	000	2.72	73.5
X2124	1,2,4-TRICH OROBENZENE	ug/kg 3	29.00	29.00		_	100.0	20	22	44.0	29.00	14.80	0.00	20.5	52.9

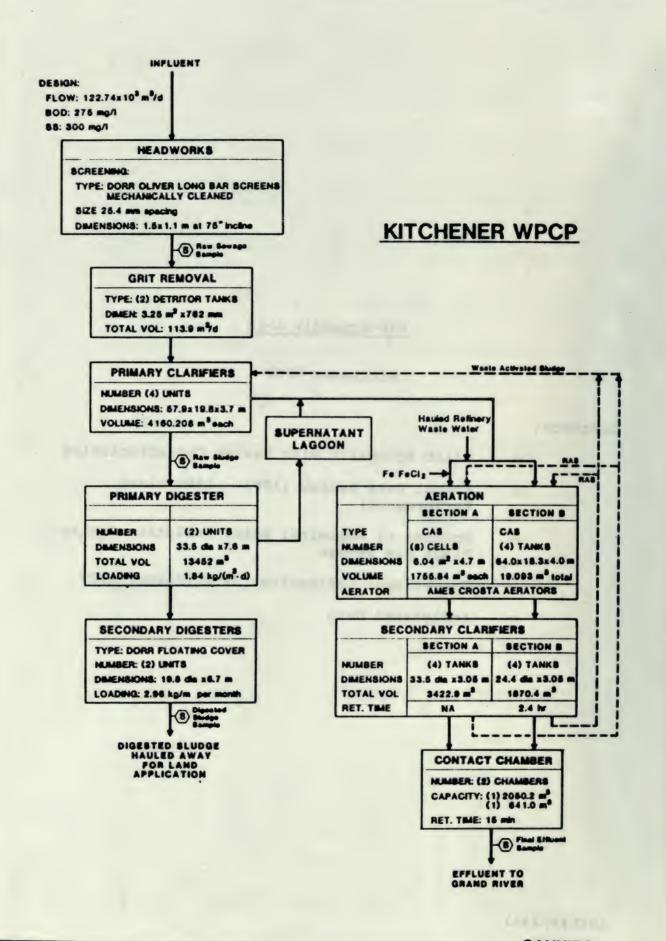
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# Sub-Appendix A-10

## Kitchener WPCP

### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- O Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Kitchener WPCP
- o Analytical Data



KITCHENER WPCP Convertional Activated Sludge Phosphorus Removal - Continuous Capacity - 122.742 18(3)m3/day

PARAMETER	1981	1982	1983	1984	1985	MEAN ANNUAL AVERAGE
Avg. Daily Flow (1888 m3/day)	62.25	63.88	66.81	68.56	64.46	64.86
BOD5 - Influent (mg/L) BOD5 - Effluent (mg/L) Annual BOD5 Significantly	251.88 9.54	258.17	255.75	288.42	226.67	254.42
Different from Mean Annual Average BOD5?	γ	N	N	N	N	; ;
TSS - Influent (eg/L) TSS - Effluent (eg/L) Annual TSS Significantly	277 <b>.50</b> 9.25	245.93	249.33 B.29	227.33	216.17	243.25
Different from Mean Annual Average TSS?	i N	1 1 1	N	1 N	; Y	1
Total P - Influent (ag/L) Total P - Effluent (ag/L) Amoual TP Significantly	7.57 8.88	7.82	7.49 0.87	6.96	6.98 8.76	7.28
Different from Mean Ammual Average TP? TP in Compliance?	   N   Y	N Y	; N ; Y	N   Y	: N : Y	; ; ;

I.D. - Insufficient Data

# SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

KITCHENER WPCP

## GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP

WOOD, METAL FURNITURE MFG

WORKS NUMBER TREATMENT TYPE	110000374 CONVENTIONAL ACTIVATED SLUDGE
DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	PHOSPHORUS REMOVAL CONTINUOUS 122.742 64.462 138271
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	39
COMMERCIAL SOURCES (%) (Population x 0.0757)	16
RESIDENTIAL SOURCES (%) (Population x 0.175)	38
UNACCOUNTED FOR, INCL. INFILTRATIO (100-% Contributed from industrial, commercial and residential sources)	ON 7
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	308 122 38
DESCRIPTION OF THE TOP 5 INDUSTRIE (BASED ON WATER USE DATA) DESCRIPTION	S DISCHARGED TO THE WPCP SIC # OF
MEAT RUBBER MFG/PROCESSING TEXTILE PRODUCTS METAL FINISHING	COMPANIES  2011-2013 5 3011-3069 5 2271-2299 3 3411-3469 30
	0510 0500

2510-2599

11

# OPERATIONAL EVALUATION FOR: KITCHENER WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: July 26, 1987 (7-day Sampling)

SAMPLING SEASON: Summer (Warm Weather)
DESIGN AV6 FLOW: 122,745 m3/d

				PRE-SAN	PLING PER	IOD		
	PARAMETER	DAY 1 :	DAY 2	DAY 3 1	DAY 4 :	DAY 5 :	DAY 6	DAY 7
; ; =:								
2 2	RAW SEWASE FLOW	74 754 1	07 020 1	111,654	i 207 00	02 717 1	70,947	61,373
	THE SERNOE PLUE	179130 1	03,047 1	1114004 1	70,302 1	02,717 1	/0474/ 1	01,3/3
2 2	% of Design Flow	60.90%	68.302	90.961	73.6321	67.39%	57.80%	50.002
1 1	# DI DESIGN 110#	1	1	101.7041	10.00%	1	1	30.00%
-								
8 8	Influent BOD (mg/L)	185.0	172.0 ;	1	1			
8 2 9 8	Primary BDD (mg/L)	171.0 ;	1	14.2 1	3	1	1	
9 2	Secondary BOD (mg/L)	13.6 1		21.8 1	#	1	1	
9 8	2 PRIMARY REMOVAL	7.621	1	1	1 1	2	3 3	
8 B	I SECONDARY REMOVAL	92.6%	3 3	1 2	5 1	1	2	
3 1 -								
9 B R R	Influent SS (mg/L)	229.0 1	228.0 }		171.0 :	172.0 1	8 2	
9 8	, ,	144.0	138.0 :		144.0 1	114.0 1	9 8	
8 B	Secondary SS (mg/L)	5.0 1			4.0 ;	4.0 1	8	
9 8	I PRIMARY REMOVAL	37.12:					8	
8 3	I SECONDARY REMOVAL	97.8%	98.21	97.21	97.7%	97.71	# #	
11-								
3 1	Influent NH4 (mg/L)	8	1	1	1	8	1	
8 8	Primary NH4 (mg/L)		3	i	i	3	ì	
1 2	Secondary NH4 (mg/L)					3		
9 8	I PRIMARY REMOVAL			1	1			
	% SECONDARY REMOVAL			1	1			
	Influent TKN (mg/L)		;	;	;			
	Primary TKN (mg/L)	i	i	1	i	i	i	
	Secondary TKN (mg/L)	1	1	1	1	1	i	
2 1	Z PRIMARY REMOVAL	1	1	t a	9	9	8	
9 9	% SECONDARY REMOVAL	1 1	1	1	1 1	8	1	
11-	* OCCUMENT RESIDENCE	!	!			!	!	
* *	Influent Total P (mg/L)	5,40 1		3.60		5.90		
11	Primary Total P (mg/L)		9	1	1	1		
1 1	Secondary Total P (mg/L)	1.15	!	1.15	9	1.15 :	!	
9 1	2 PRIMARY REMOVAL	1	1	1	1	1		
2 1	% SECONDARY REMOVAL	78.7%	9	68.17!	1	80.5%	1	

NOTE: 40% of Primary Influent to Plant 1, 60% to Plant 2.

# OPERATIONAL EVALUATION FOR: KITCHENER NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: July 26, 1987 (7-day Sampling)

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 122,745 m3/d

11				PRE-SA	MPLING PER	IOD		1
11	PARAMETER			DAY 10 ;				DAY 14
11-	RAN SEWAGE FLOW	76,367		- }	73,636	:	1	
11	% of Design Flow	62.22%	67.94%	61.502	59.99%	58.85%	49.372	
	Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL	230.0 ( 180.0 ) 8.4 ( 21.7%) 96.3%	1	335.0 ( 204.0 ( 8.1 ( 39.12) 97.62(	 		14.0	
	Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL	180.0   126.0   7.0   30.02   96.17	215.0 : 115.0 : 5.0 : 46.52: 97.71:	211.0 ; 134.0 ; 5.0 ; 36.52; 97.62;	38.121 96.321	176.0 ; 7.0 ; 5.9%;	7.0	1
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL						3.85	
	Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL		1	, , ,	1	1	6.2	
	Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) Z PRIMARY REMOVAL	5.40	 	6.70   0.83   87.62		6.30 { 0.79 { 87.52 }		

NOTE: 40% of Primary Influent to Plant 1, 60% to Plant 2.

## KITCHENER WPCP

TREATMENT FASILITY: Secondary

PERIOD ENDING: July 26, 1987 (7-day Sampling)
SAMPLING SEASON: Summer (Warm Meather)
DESIGN AVG FLOW: 122,745 m3/d

				SAMP	LING PERIO	D		
		DAY 15	DAY 16 :					
=:								
	RAW SEWAGE FLOW	75,757	70,868	69,381	69,882	78,615	68,166	56,621
	% of Design Flow	61.722	57.741	56.522	56.931			46.133
	Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL		1	3 1	**************************************		1 1 1 1 1 1	
	Secondary SS (mg/L) 2 PRIMARY REMOVAL	209.0 1117.0 8.0 44.0	155.0 :	155.0 : 4.0 : 21.7 :	186.0 : 7.0 : 15.8 :	186.0 : 6.0 : 49.5 :	:	
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL	          						
_	Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL		3 3 7 1 2 2 1			2 2 2 1		
-	Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL	1	2 2 3 3 3 2 3	6.30	1 1 2 1	5.80	i	

NOTE: 40% of Primary Influent to Plant 1, 60% to Plant 2.

## KITCHENER WPEP

TREATMENT FACILITY: Secondary

PERIOD ENDING: January 23, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVG FLOW: 122,745 m3/d

			PRE-SAP	PLING PERI	OD		
PARAMETER :	DAY 1 :	DAY 2 {	DAY 3 1	DAY 4 1	DAY 5	DAY 6 1	DAY 7
RAW SEWAGE FLOW	69,540	71,265 :	73,084	72,103	70,934	62,729 1	58,410
% of Design Flow	56.65%	58.06%	59.542	58.742	57.79%	51.112	47.591
Influent BOD (mg/L)	300.0		325.0			- 	
Primary BOD (mg/L)	184.0 1	1	198.0 1	1	1	1	
Secondary BOD (mg/L)	13.2 1	1	12.8 :	1	1	1	
7 PRIMARY REMOVAL	38.7%	1	39.121	1	1	1	
% SECONDARY REMOVAL	95.621	*	96.121	1	- !	1	
Influent SS (mg/L)	214.0 1	294.0	272.0	263.0	220.0 1		
Primary SS (mg/L)	149.0 :	173.0 !	130.0 :	125.0 1	136.0 :	1	
Secondary SS (mg/L)	7.0 ;	4.0 ;	4.0 ;	3.0 :	4.0 1	1	
% PRIMARY REMOVAL	30.421	41.2%	52.27	52.5%;	38.2%;	1	
% SECONDARY REMOVAL	96.71	98.6%	98.51	98.91	98.2%		
Influent NH4 (mg/L)				i-	;		
Primary NH4 (mg/L)		1	1	;	1	1	
Secondary NH4 (mg/L)		1	1	1	1	1	
7 PRIMARY REMOVAL	1	1	1	1	1	1	
I SECONDARY REMOVAL			3	;	1	1	
Influent TKN (mg/L)		;-	·i		1		
Primary TKN (mg/L)	1	1	1	1	1	- 1	
Secondary TKN (mg/L)	1	1	1	1	1		
7 PRIMARY REMOVAL	1	1	1	1	1		
% SECONDARY REMOVAL		- !		1			
Influent Total P (mg/L)	7.20			1	6.80		
Primary Total P (mg/L)	1	1	1	;	;	1	
Secondary Total P (mg/L)	1	1	1	;	0.36 1	1	
2 PRIMARY REMOVAL		1	1	1	1	1	
% SECONDARY REMOVAL		1	1	1	94.7%	1	

NOTE: 50% of Primary Influent to Plant 1, 50% to Plant 2.

# KITCHENER WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: January 23, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVG FLOW: 122,745 m3/d

1				PRE-SA	MPLING PER	IOD		
1	PARAMETER	DAY 8	DAY 9	DAY 10 :	DAY 11	DAY 12 :	DAY 13 ;	
; =:		! !			!			********
1	RAW SEWASE FLOW	69,138	70,733	71,560	76,931	73,522	64,984	59,651
8 2 8	% of Design Flow	56.3321	57.632	58.302	62.68%	59.90%	52.942	48.607
	Influent BOD (eg/L)	240.0		260.0			;	
3	Primary BOD (mg/L)	212.0 1	1	189.0 :	1	2	1	
3	Secondary BOD (mg/L)	6.4	2 5	19.6	1 1	1	28.9 :	
2 2	7 PRIMARY REMOVAL	11.7%	1	27.32:	1	1	1	
!	I SECONDARY REMOVAL	97.31		92.5%	;			
1	Influent SS (mg/L)	226.0	263.0	267.0	253.0	214.0		
B B	in a man y was a major and	189.0 1	217.0 :				1	
0	Secondary SS (mg/L)	2.0 1	3.0 1					
9	7 PRIMARY REMOVAL	16.421	17.51:			39.32:	1	
-	Z SECONDARY REMOVAL	99.121	98.9%	98.5%	98.82	98.61	i	
8 3	Influent NH4 (mg/L)	;	}	1			1	
9	Primary NH4 (mg/L)	3 3	;	;	1	1	;	
1	Secondary NH4 (mg/L)	:	1	3	1	i	8.65	
î	7 PRIMARY REMOVAL	1	1		1	1	3	
-	I SECONDARY REMOVAL	[						
8	Influent TKN (mg/L)	1	8	:	i			
1	Primary TKN (mg/L)		ì	3	1	1	1	
8	Secondary TKN (mg/L)		3	1	1	1	9.7 !	
9	I PRIMARY REMOVAL	1	1	1	1	1	1	
!-	% SECONDARY REMOVAL	i i	!		!			
9	Influent Total P (mg/L)	6.10	3	5.60	:	6.50	!	
8	Primary Total P (mg/L)	1 1	8	3 3	1	1	1	
1	Secondary Total P (mg/L)	0.50 :	1	0.43 :	1	0.50 :	0.63 :	
1	% PRIMARY REMOVAL	;	3 3	5	1	1	3 2	
ľ	% SECONDARY REMOVAL	91.8%	. !	92.37:	1	92.3%	1	

NOTE: 50% of Primary Influent to Plant 1, 50% to Plant 2.

## OPERATIONAL EVALUATION FOR: KITCHENER WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: January 23, 1987 SAMPLING SEASON: Winter (Cold Weather)

DESIGN AV6 FLDW: 122,745 m3/d

			SAMF	PLING PERIO	ID .		
PARAMETER	DAY 15	DAY 16 !	DAY 17	DAY 18		DAY 20	
		!					
RAW SEWAGE FLOW	68,808	69,631 1	70,075	70,318	69,450		:
% of Design Flow	56.06%	56.73%	57.09%	57.29%	56.58%		:
Influent BOD (mg/L)	238.0		262.0		352.0	348.0	
Primary BOD (mg/L)	183.0 1		96.0				1
Secondary BOD (mg/L)	6.4	1	11.8	1	28.6	16.2	1
2 PRIMARY REMOVAL	23.1 1	1	63.4				1
% SECONDARY REMOVAL	97.3	- :	95.5		91.9	95.3	}
Influent SS (mg/L)	196.0	205.0	242.0	253.0	213.0	383.0	1
Primary SS (mg/L)	152.0	143.0 1	164.0	223.0	161.0	77.76	1
Secondary SS (mg/L)	3.0 1	3.0 1	5.0			3.6	1
7 PRIMARY REMOVAL	22.4		32.2				;
I SECONDARY REMOVAL	98.5	98.5 :	97.9	97.2	98.1	99.1	!
Influent NH4 (mg/L) Primary NH4 (mg/L)	34.9		36.0		35.9	33.3	11111
Secondary NH4 (mg/L) % PRIMARY REMOVAL	0.5	•	5.1		9.3	1.4	! !
Z SECONDARY REMOVAL	98.6		85.8		74.1	95.8	
Influent TKN (mg/L)	44.3		56.0		46.3	53.0	
Primary TKN (mg/L) Secondary TKN (mg/L)	2.2		5.6		6.8	4.3	1
% PRIMARY REMOVAL	;	1		1			1
% SECONDARY REMOVAL	95.0		90.0		85.4	91.9	
Influent Total P (mg/L)	6.30		7.90		7.90	9.15	1
Primary Total P (mg/L)		•					
Secondary Total P (mg/L)	0.54	,	0.65		0.50	0.70	
Z PRIMARY REMOVAL Z SECONDARY REMOVAL	; 91.4 ;	i	91.8		93.7	92.3	i

NOTE: 50% of Primary Influent to Plant 1, 50% to Plant 2.

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Welght

PLANT NAME: Kitchener PLANT TYPE: Secondury

CONTAM.	CONTAMINANT NAME	UNITS QC	(m)	NT ONC. DI.	MAX. DET. CONC.	FLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLORAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
CONVENTIONALS	ONALS															
a done	TANAMAN TOTAL VALUE OF STATE	No.	c	76.60	802 00	13	1.3	0.001	267	366	9 00	758 60	140 23	1 03	1 0.1	000
COD	CHEMICAL OXYGEN DEMAND	me/l	00	216.00	1620.00	: =	: =	100.0	260	258	99.2	547.08	287.75	194	1.82	0001
DOC	DISSOLVED ORGANIC CARBON	me/	0	15.50	86.90	12	12	0.001	173	1/2	100.0	30.52	22.39	1.86	181	100.0
NNITTER	AMMONIUM, TOTAL, PILT. REAC.	me	0	15.80	36.00	12	12	0.001	275	274	9.66	23.47	15.37	1.40	1.69	100.0
NNTKUR	NITROGEN-TOT-KUEL,UNP.TOT	mgA	0	22.50	27.00	12	12	100.0	273	273	100.0	37.16	25.44	1.37	1.47	100.0
E S	(-LOG(IH+(CONCN))		0 (	6.39	7.51	12	. 21	100.0	275	275	100.0	6.88	06.90	1.05	1,05	0.001
PPUT	PHOSPHORUS, UNFILLT. TOTAL	THE ST	00	4.22	10.20	5 2	13	100.0	248	248	100.0	736.67	5.18	131	151	100.0
RSPI OI	RESIDUE, PARTICULATE RESIDUE PARTICUS ON IGNI	1	0	84.60	217.00	7	7	100.0	06	89	98.9	118.77	100.84	1.49	1.78	0001
PI (NOI.	PHENOLICS (4AAP)	Z.	0	0.92	5.00	12	. 10	50.0	27.5	37	13.5	990	0.31	2.99	2.05	37.8
NNO2FR	NITRITE, FILT. REACT.	me/L	0	0.03	0.03	12	-	8,3	112	58	21.4	0.00	0.01	2.04	2.98	51.4
METALS																
	T A SUCCESSION OF RESTAURT S A STREET OF S O A		•	240.00	3600 00	:	2	900	333	306	0 30	430.00	01 0001		***	* 600
ALUIT TIP	CHROMITM INFILL TOTAL	1	0 0	30.00	350.00	1	2 2	0.001	122	217	73.6	80.00	\$1.10	212	144	97.3
Curt	COPPER UNFILT TOTAL	18		140.00	220.00	2	2	100.0	49	48	0.86	180.00	110.60	1.38	2.28	47.1
SRUT	STRONTIUM, UNPILT. TOTAL	"EAL		1100.00	2250.00	14	14	100.0	319	318	7.66	1340.00	370.70	1.18	214	100.0
ZNCT	ZINC,UNFILT.TOTAL	ne.	0	100.00	2100.00	71	1	100.0	322	315	87.8	430.00	211.00	2.26	2.94	100.0
HGUT	MERCURY, UNFILT. TOTAL	2	0 0	80.0	130	13	12	92.3	283	274	8.96.8	0.30	0.23	2.42	211	100.0
AGUI TION	CORAL TINNE TOTAL	2 2	0 0	10.00	00.05	4 4	n =	23.7	125	28	25.6	10.00	9.30	2.11	223	13.7
CCNINUR	CYANIDE-FREE, UNFILT.REAC.	2	0	10.00	10.00	12	2	16.7	172	82	30.3	000	1.90	3.10	6.88	32.4
PBUT	LEAD, UNFILT TOTAL	20	00	120.00	30.00	7.3	2 -	14.3	322	57	17.7	00:00	59.50	1.40	1.86	51.4
MOOI	MOLTBLENOM, ONFILL LOI AL	No.	0	AU.OA	20:00	ŧ.	-	1.7	176	<del>-</del>	871	10.00	12.40	*	77.1	808
BASENEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	INDS														
DAMACTOR	Constant	-		26.70	261 30	2		0001	311	191	1.09	106 96	36 60	200	37.6	3 700
PMPHEN	MENOL	3	- 2	17.50	276.20	12	6	75.0	275	118	42.9	40.31	14.52	4.02	246	78.4
PESTICIDE	PESTICIDES.HERBICIDES.PCBS															
P324D P3SILV P1BHCG	24-DIGHLOROPHBNOXYACGTIC ACID SILVEX GAMMA-BHCHEXCHLORCYCLJEXANB)	333	m m r	0.05	0.24	222	en oo en	33.3	276	214	10.1	900	0.06	1.97	3.72	100.0
PIENDI	ENDOSULPANI	3	E .	0.03	0.12	12	<b>m</b>	25.0	276	4	1.5	0.02	100	242	1.30	5.4
PIDIEL	DIELDRIN	7	- 2	0.02	0.09	2 2	m (4	16.7	276	s s	2.9	0.02	10.0	211	1.74	18.0
PIEND2	ENDOSULPAN II	3	en :	0.10	0.15	12	2	16.7	276	10	3.6	0.02	100	2.66	1.42	21.6
PIPPOD	PP-DDD	2	P)	90.0	0.34	2 2	n n	16.7	276	n ve	1.8	0.02	000	2.78	135	10.8
PIPPDT	PP-DDT	No.	E1	0.13	0.95	12	2	16.7	276	6	3.3	90'0	900	2.58	1.35	18.9
PICHIA	245-TRICLORPRENOXYACETIC ACID ALPHA-CHLORDANE	35	en	0.02	0.51	12	7 -	16.7	276	22	8.0	0.07	90.00	2.42	1.60	37.8
PICHLO	GAMMA-CHLORDANB	3	-	0.05	0.05	12	940	8.3	276	. 6	3.3	0.01	0.01	1.59	1.49	16.2
PIPCBT X2124	PCB, TOTAL,	3	7 5	0.26	0.26	12		8.3	276	42	15.2	5000	90:0	1.72	231	46.0
	I Ay T I NACH HACKANING TANDAN		•	0,11	11.0	9	-	6,0	017	23	1.71	70'0	10'0	707	87	40.3

	PLANT	PLANT NAME: Kitchener PLANT TYPE: Secondary	Citchener						SAMPL	SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight	: Raw S	ewage				
CONTAM-	CONTAM. CONTAMINANT NAME INANT	UNITS	UNITS QC PLANT CODE MIN. CONC.	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.	
VOLATILE	VOLATILES ORGANIC COMPOUNDS										71					
В2МРХУ	B2MPXY M., AND P.XYLENES	ug/L 1	1 40.00	40.00	п	çet	9.1	274	43	15.7	21.30	26.00	1.23	202	37.8	

PLANT NAME: Kitchener

SAMPLING TYPE: Final Effluent SAMPLE FORM: Wet Weight

		PLANT	TYP	PLANT TYPE : Secondary	lary						VS.	SAMPLE FORM		: Wet Welght				
CONTAM. INANT	CONTAMINANT NAME	UNITY QC CODI	0.0	QC STD. FOR STD. REF. CODE SURFACE WATER		MIN. CONC. MAX. DET.	MANT IAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	* FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET.	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.
CONVENT	CONVENTIONALS																	
													ı					
BODS	BOD, S DAY -TOTAL DEMAND	mgA.				13.90	33.00	12	12	100.0	213	211	8, 8	21.95	21.22	1,35	2.07	0.001
000	CHEMICAL OX YGEN DEMAND	mg/L	0 0			2 70	640	12	12	100.0	220	220	1000	4 17	8 00	200	1.65	000
NNOTE		me/l	00			0.03	2.78	12	12	100.0	220	194	88.2	990	0.22	3.42	5.95	864
NNOTA		me/l.				9.10	18.70	12	12	100.0	224	186	83.0	13.45	233	1.22	7.75	96.A
NNTKUR		mg/L				00.1	9.40	12	12	0.001	222	222	0.001	2.63	7.97	205	271	1000
H.d	(-LOG(H+(CONCN))	.Vem	0 0			3.60	6.20	12	12	100.0	220	219	98.6	4.83	10.12	1.20	2.00	1000
PPUT	PHOSPHORUS, UNFILT. TOTAL	TANK T	0			0.44	1.06	13	12	92.3	211	206	97.6	190	0.68	1.47	1.97	1000
NNHTPR		me.	0 0			0.50	9.30	2 2	<b>6</b> •	75.0	223	204	91.5	99'0	3.90	7.23	6.98	1000
MINO	MENOLICS (4AAP)	THE STATE OF THE S	5	0.00	ON I-MOS	0.16	0.08	71	•	6.66	577	e e		970	0.07	5	1.86	33.8
METALS																		
SRUT	STRONTIUM, UNPILT. TOTAL	ug.	0	_	ONT-MOR	970.00	2200.00	14	14	100.0	267	797	100.0	1230.00	340.90		214	100.0
TONZ	ZINC, UNFIL T. TOTAL.	u.	0		ONT-MOR	10.00	70.00	1	7	100.0	267	262	98.1	40.00	53.30		2.48	1000
ALUT	ALUMINUM, UNITILITYAL	Ne.			ONT-MOE	90.00	3400.00	* 1	13	92.9	267	131	74.2	30.00	22.10		3.72	88
HOLT	MERCURY UNFILT TOTAL	New York		0.20	ONT.MOH	0.01	0.05	13	6	69.2	233	220	2.2	0.01	0.03		2.62	100.0
CULT	COPPUR, UNPILIT TOTAL	No.	0		ONT-MOF.	10.00	10.00	2	-1	90.0	47	30	63.8	10.00	13.10		2.56	77.8
CRUT	CHROMIUM,UNPILT.TOTAL	ug.	00		ONT-MOR	10.00	30.00	4 3	en 4	35.7	267	137	51.3	10.00	9.00		200	89.3
COLT	COBALT LINES T. TOTAL	ue/l.	0 0	2000	NYS-STD	10.00	10.00	4 4	e m	21.4	566	65	24.4	10.00	6.40		107	82.1
MOUT	MOLYBONIUM, UNPIL, TOTAL	Les .	0			10.00	10.00	14		21.4	267	75	28.1	10.00	9.60		1.56	67.9
AGIT	SILVER, UNFILT TOTAL	5	00	0.10	ONT.MOR	10.00	1250.00	4 5	~ ~	14.3	267	15	5.6	10.00	06.90	4.34	1.84	32.1
			>					:		ì							9000	20
Premon	PRECIOES HERBICIDES BORS																	
	Majitte Not Control of Control																	
P32AD	24-DIGHLOROPHENOXYACETIC ACID	Man (H	en c	0.4	ONT-MOB	1000	1.10	12	r 4	38.3	מנ	171	78.0	000	0.08	5.79	4.71	0.001
PIDIEL			100		ONT-MOK	0.01	0.01	12	(4)	16.7	227	*	0.9	0.01	0.01	137	1.10	3.6
PIEND2	ENDOSULPAN II	No.	en -	000	ONT-MOR	0.02	0.0	12	n 0	16.7	122	n r	9.0	000	000	200	1.19	3.6
PSSILV	-		4 89			0.13	0.45	12	1 64	16.7	227	23	10.1	0.04	0.03	2.50	1.83	20.0
PIBHCA	ALPHA-BHC(HEXCHLORCYCL)HEXANE)		e-4 e	000	NYS-GUL	003	0.03	12		e .e	727	en e	22	100	0.01	1.71	1.24	14.3
PICHLO					ONT-MOE	0.08	0.08	12		. ee	227	n wn	12	000	0.01	223	136	1 64
PIENDI	ENDOSULFANI	N	۳,		ONT-MOE	0.02	0.02	2 :		60 E	227		70	100	0.01	37	1.12	3.6
PIMIRX	MIREX	New York	n -	000	ONT-MOR	0.03	0.03	12		7) F	227		200	100	0.01	131	1.14	36
PIPCBT	PCB, TOTAL	ne.	. 7		ONT-MOR	0.19	0.19	12		80.30	227	•	4,0	0.03	0.02	1.9	140	28.6
PIPPDD	PP-DDD	ug/		0.00	ONT-MOB	0.01	0.01	12	_	8.3	227	7	6.0	0.01	0.01	1.31	1.10	7.1
P3245T	24.5-TRICLORPHENOXYACETIC ACID	No.	en .			0.41	0.41	12	-	80 FT	227	23	011	0.03	0.03	736	22	429
VOLATIL	VOLATILES ORGANIC COMPOUNDS																	
						į												
XIBDCA	XIBDCM BROMODICH OROMETHAND	2	-	90'06	NYS-OUL	5.70	\$.70	=	-	9.1	224	7	3.1	1.69	1.55	1.50	1.20	17.9

PLANT NAME: Kitchener PLANT TYPE: Secondary

SAMPLING TYPE: Raw Studge SAMPLE FORM: Dry Weight

CONTAM: CONTAMINANT NAME	UNITSQA/QC PLA (DRY CODE MIN.C WEIGHT) > 1	NAT SONG.	PLANT MAX. BET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
CONVENTIONALS														
COD CHEMICAL OXYGEN DEMAND NNITTER AMMONITM, TOTAL, FILT REAC. NNOTH'R NITRACHES, TOTAL, FILT REAC. NNTEUR NITROGEN'TOT KLEL, UNP. TOT (4, LOX(HACKONCN)) PHOOL, PHOSHICK (4AAP) PHUT RESINUE, TOTAL. RST. RESINUE, TOTAL.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1614339.62 10037.74 28.30 52021.56 5.50 156.33 23045.82 26500.00 19200.00	11725.07 11725.07 37.74 34.716.98 5.78 347.17 22132.08 37100.00	- 8 8 8 8 8 8 8 8	- 00 0 0 0 0 0 0	100.0 100.0 100.0 100.0 100.0 100.0 100.0	4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	\$ 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	100.0 97.9 89.6 100.0 100.0 100.0 100.0	1614339.62 10848.65 32.68 5335.25 5.64 232.97 23088.91 31355.22 21952.68	892221.45 5911.32 25.44 36897.85 6.03 82.34 20347.70 32783.51 20803.05	0.00 1.12 1.04 1.04 1.06 1.76 1.20 1.21	3.19 2.23 2.28 2.28 1.10 1.10 1.81 1.81	100.0 100.0 100.0 100.0 100.0 100.0 100.0
METALS														
AGUT SEAVER, UNFILL TOTAL ALJAMBUM, UNFILL TOTAL ARSENIC, UNFILL TOTAL ARSENIC, UNFILL TOTAL CRUT CRIMM, UNFILL TOTAL CONTROMUM, UNFILL TOTAL CONTROMUM, UNFILL TOTAL CONTROMUM, UNFILL TOTAL MOUT MECHE, UNFILL TOTAL MOUT MOUT HOUSE INTOTAL SEL ENUM, UNFILL TOTAL SEL SERVING, UNFILL TOTAL SEL STROMUM, UNFILL TOTAL SRUT ZINC, UNFILL TOTAL ZINC, UNFILL TOTA	100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	29.81 3773.58 2.64 1.75 2.88.76 6.21.13 6.47 35.04 71.70 2.16 566.04 830.19	32.35 4528.30 297 1.75 415.09 673.85 6.47 45.28 99.73 2.26 619.95 1428.57	000-000-00000	000-000-00000-	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	\$ 2 2 5 5 4 5 5 5 2 2 5	6 2 8 8 8 8 2 2 8 8 8 2 2 8 8 8 2 2 8 8 8 2 2 8 8 8 2 2 8 8 8 2 2 8 8 8 2 2 8 8 8 2 2 8 8 8 2 8 8 8 8 2 8	88.9 100.0 93.0 93.0 93.0 100.0 100.0 100.0 100.0 100.0	31.05 4133.76 280 1.75 327.73 646.96 1.24 6.47 39.83 84.56 2.21 592.38 1009.03	30.17 983.574 6.13 9.74 301.43 606.31 2.23 5.80 5.80 39.17 173.99 304 231.70 905.39	11.06 11.14 11.00	2.51 2.51 2.51 2.51 3.58 3.58 1.77 1.77 2.28 2.29 2.29 2.29 2.29 2.29 2.29 2.29	# 600 600 600 600 600 600 600 600 600 600
BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	MPOUNDS													
PMMCRE M-CRESOL PMPHEN PHENOL DIOXINS AND FURANS	ug/kg 1 ug/kg 2	64690.00 9	45283.00	2 2	n	50.0	51 21	15	82.3	13530.80	7312.80	34.44	3.00	38.3
P98CDD OCTACHLORODIBENZODIOXIN PESTICIDES,HERRICIDES,PCBS	ug/kg 1	29.60	29.60	2	7	50.0	90	22	90.0	16.70	8.50	225	3.60	88.8
PICHLG GAMMA-CHLORDANE PIDIEL DELIDRIN PIENDI PIENDI PENDI P	LEAR 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11.30 5.40 16.20 48.50 10.80 32.30 86.30 18.90 11.30	13.50 64.20 18.90 117.00 30.20 313.60 110.90 18.90 30.20 11.30		~~~~	100.0 100.0 100.0 100.0 100.0 100.0 80.0 50.0	<b>55555555</b> 555	22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	29 23 24 24 24 24 24 24 24 24 24 24 24 24 24	12.40 18.60 17.50 75.30 18.10 100.60 97.80 8.50 8.50	6.00 7.20 4.60 73.0 73.0 73.0 73.0 73.0 73.0 8.90 8.90 8.90	5.76 5.76 1.12 2.78 4.99 1.19 5.31 5.31 5.31	2.56 2.56 3.18 2.26 2.24 2.26 2.38	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8

	HORAL FREV.	23.5 32.4 20.6 33.5 117.7 41.2
		*******
	GLOBAL SPREAD FACTOR	221 262 283 273 274 274 6.50 6.50
	PLANT SPREAD FACTOR	5.01 6.45 5.51 2.27 4.27 92.27 6.00
Sludge Veight	GEORAL GEO. MEAN	4.20 5.00 4.50 4.50 5.10 16.40 93.20
: Raw!	GEO. MEAN	8.40 10.10 9.00 5.50 10.60 27.10 132.40 9.60
SAMPLING TYPE : Raw Sludge SAMPLE FORM : Dry Weight	GLOBAL. S. PREQ. DET.	15.7 25.5 13.7 13.7 13.8 13.8 13.8 13.8
SAMPL	GLORAL.	*2/*50 %57
	GLOBAL # SAMPLES	2222222
	PLANT S. FREQ. DET.	50.0 50.0 50.0 50.0 50.0 50.0 50.0 50.0
	PI.ANT	
	PLANT # SAMPLES	2222222
	MAX. DET. CONC.	26.40 39.70 30.20 11.30 29.60 48.50 3246.40
chener	MIN. CONG.	26.40 37.70 30.20 11.30 29.60 48.50 32.46.40
PLANT NAME: Kitchener PLANT TYPE : Secondary	UNITSQA/QC PLANT (DRY CODE MIN. CONC. WEIGHT) > DI.	100 M
PLANT NA PLANT TY	CONTAM: CONTAMINANT NAME.	ENDRIN HEPTACHLOREPOXIDR HEPTACHLOR PUDDD HEDDO
	E CONTAN	
	CONTAM	PHENDR PHHEPT PHOCHE PHYDD PHYDD PHYDD Y2124

PLANT NAME: Kitchener PLANT TYPE: Secondary

SAMPLING TYPE: Treated Sludge

SAMPLE FORM : Dry Weight

GLOBAL. 90.0 97.1 90.0 97.1 97.1 97.1 35.3 64.7 55.9 38.2 32.4 44.1 53.3 33.3 38.2 38.3 GLOBAL SPREAD FACTOR 83 28 4.65 11.77 11.09 11.09 13.19 13.19 13.19 PLANT SPREAD FACTOR 2.50 8.86 2452 GEO. GEO. MEAN 508097.94 17658.28 38494.12 7.17 5281.80 2108.80 6.50 6.80 34.10 111.10 92.70 92.70 5.50 6.50 7.10 76638.67 80434.04 43379.33 42.68 5.40 10.47 333.06 732.24 3.24 6.41 72.95 196.62 2.67 2.40.93 4.41 1.73 538.37 936.13 2.35 5.11 67.06 142.92 4.06 788.09 GEO. MEAN 8142.60 17.60 15.50 67.80 96.70 299.80 114.70 10.10 6.70 991641.59 34761.53 65621.80 767 218.74 32892.74 29486.27 15663.33 74.88 11.20 GLOBAL FREQ. DET. 100.0 98.0 91.1 93.3 98.0 98.0 98.0 98.0 98.0 30.0 72.0 36.0 36.0 37.0 37.0 37.0 37.0 37.0 37.0 37.0 88.5 88.5 53.1 GLORAL - 1 3 5 92 SAMPLES GLOBAL 20 20 49 2222222222 PLANT S FREQ. 0.000 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 50.0 50.00 50.00 50.00 50.00 50.00 50.00 50.00 50.0 DET --222222222222 SAMPLES 22222222 MAX. BET. CONC. 44.53 5.26 1.73 566.80 963.97 2.43 5.11 68.83 149.80 4.45 40352.20 145344.13 41295.55 72874.49 7.75 526.32 38663.97 35200.00 17400.00 78.95 89.10 UNITSQA/QC PLANT
(DRY CODE MIN. CONC.)
WEIGHT) > DL. 3.69 1.73 511.36 909.09 2.27 5.11 65.34 136.36 3.69 767.05 40352.20 12.10 40.50 40.50 74.10 86.70 86.70 86.70 86.70 86.70 86.70 86.70 86.70 86.70 86.70 89.10 74261.36 29261.36 59090.91 7.59 90.91 27982.95 24700.00 14100.00 00000000 0000000000000 \*\*\*\*\*\*\*\*\* 2 × 3 × 3 . V. \*\*\*\*\*\* BASE NEITRAL AND ACID EXTRACTABLE COMPOUNDS BETA-BIC (HEXCHLORCYCLLEXANE) GAMMA-BIC(HEXCHLORCYCLLEXANE) DIELDRIN ALPHA-BHC(HEXCHLORCYCLJHEXANR) COPPER, UNFILL TOTAL,
MERCURY, UNFILL TOTAL
MOLYBDENUM, UNFILL TOTAL,
NICKEL, UNFILL TOTAL, OCTACHLORODIBENZODIOXIN CHEMICAL, OXYGEN DEMAND AMMONIUM, TOTAL, FILT, REAC. NTROGEN-TOT, KJEJ, UNF. TOT SH.VER,UNFB.T.TOTAL
ALIMINUM,UNFB.T.TOTAL
ARSENICUNFB.T.TOTAL
CADMIUM,UNFB.T.TOTAL
CREOMIUM,UNFB.T.TOTAL RESHME, TOTAL RESHME, TOTLOSS ON IGNI. NITRATES, TOTAL FILT. REAC. PHOSPHORUS, UNFILT. TOTAL STRONTIUM, UNITLY TOTAL SELENIUM, UNFILT. TOTAL CONTAMINANT NAME ALPHA-CHLORDANE GAMMA-CHLORDANE METHOXYCHLOR JEAD, UNPILITOTAL PESTICIDES, HERBICIDES, PCBS ZINC, UNFILT. TOTAL (-LOG(HH(CONCN)) PHENOLICS (4AAP) ENDOSTILIANT PCB, TOTAL. M-CRESOL. PHENOL. DIOXINS AND FURANS CONVENTIONALS CONTAM. PMMCRE COD NNITHER NNTKUR PH PHINOL PPUT RST RST PHENDI PHYBT PHYDE PISHCA PHBHCA PHBHCG PHBHCG METALS P98CDD PIDMOI AGUT ABUT COULT COULT COULT HGUT MOUT NILT PRUT NANT

	GLOBAL.	20.6 14.7 17.7 17.7 18.6 18.7 18.7 18.7 18.7 18.7 18.7 18.7 18.7
	GLOBAL SPREAD FACTOR	2.65 2.26 2.26 2.24 2.24 2.24 2.14 2.14 2.14 3.11 3.51 2.96 2.96
	PLANT SPREAD PACTOR	2.78 6.53 3.46 5.51 2.11 2.21 7.43 2.63 79.84 8.39 2.81
Treated Sludge Dry Weight	GLORAL GEO. MEAN	4.70 4.20 4.20 4.20 4.20 16.70 16.70 14.80 7.00
	PLANT GRO. MEAN	8.20 15.10 6.70 8.90 4.80 16.50 143.20 126.20 126.20 126.20
SAMPLING TYPE SAMPLE FORM	GLOBAL % FREQ. DET.	14.0 10.0 18.0 18.0 12.0 12.0 14.0 56.0 42.0 42.0
SAMPL	GLOBAL	22 22 22 22 21
	GLOBAL. # SAMPLES	5 5 5 5 5 5 5 5 5 5 5 5
	PLANT S. FREQ. DET.	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05
	PLANT # DET.	
	FLANT # SAMPLES	2222222222
	PLANT MAX, DET, CONC.	17.00 56.80 16.20 28.30 8.10 66.20 181.80 1443.30 2792.70 56.70
Kitchener	PLANT MIN. CONC.	17.00 56.80 16.20 28.30 8.10 68.20 18.80 1443.30 2792.70 56.70
	UNITSQA/QC PLANT (DRY CODE MIN. CONC. WEIGHT) > DL	ug/kg 3 ug/kg 3 ug/kg 2 ug/kg 2 ug/kg 3 ug/kg 3 ug/kg 3 ug/kg 3
PLANT NAME : PLANT TYPE :	CONTAMINANT NAME.	ENDOSULEAN II FENRIN HEFTACHIOR MIRLAX MIRLAX OXYCHIORDANB PP DDD PP DDD PP DDD PP DDD 1,24 TRICHIOROPHINOXYACETIC ACID
	CONTAM. INANT	PH-ND2 PH-NDR PH-NDR PH-OCT-R PH-PADD

.

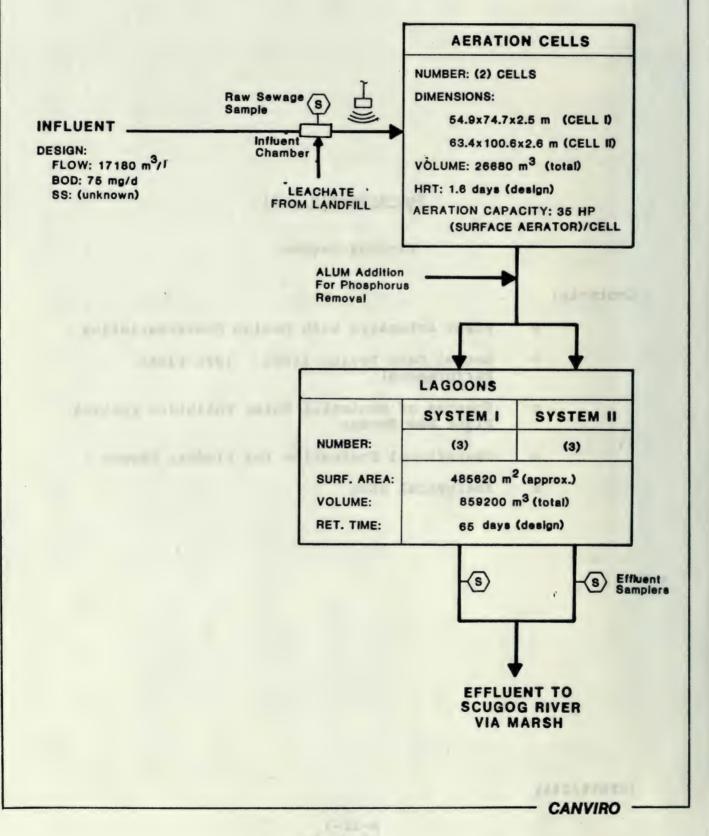
# Sub-Appendix A-11

# Lindsay Lagoon

### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Lindsay Lagoon
- o Analytical Data

# **LINDSAY LAGOONS**



LINDSAY LAGDON
Conventional Lagoon Continuous
Aerated Cell
Phosphorus Removal - Continuous
11.365 10(3) m3/day

PARAMETER	1981	1982	1983	1984	1985	15 YEAR AVERAGE
PHRHICICS	;		1700	;		
Avg. Daily Flow (1888 m3/day)	18.6B	18.46	8.96	12.91	18.33	11.83
BOD5 - Influent (ag/L) BOD5 - Effluent (ag/L)	98.38	99.20	94.68	189.17 29.88	91.89	95.41
Annual BOD5 Significantly Different from Mean	1 1 1	3 5 4	8 8 8	\$ \$	;	1
Annual Average BOD5?	I.D.	I.D.	1.0.	i I.D.	I.D.	:
TSS - Influent (mg/L)	187.98	98.98	97.88	187.78	210.33	118.33
TSS - Effluent (mg/L) Annual TSS Significantly	19.58	9.38	11.78	23.43	5.96	14.44
Different from Mean Annual Average TSS?	i I.D.	1.D.	I.D.	1.0.	1.0.	8 8 8
Total P - Influent (mg/L)	4.48	3.99	4.70	4.16	3.63	4.24
Total P - Effluent (mg/L) Annual TP Significantly	₹.56	0.04	8.31	8.87	0.52	8.58
Different from hean Annual Average TP?	1.0.	I.D.	1.0.	1.0.	1.0.	
TP in Compliance?	; Y	; Y	<b>Y</b>	; Y	; Y	; Y

# I.D. - Insufficient Data

# SOURCES OF MUNICIPAL SEWAGE TREATMENT PLANT RAW SEWAGE

# GENERAL DESCRIPTION OF SEWAGE TREATMENT PLANT (STP)

NAME OF STP WORKS NUMBER TREATMENT TYPE	LINDSAY WPCP 110000383 CONVENTIONAL LAGOON CONTINUOUS AERATED CELL PHOSPHOSRUS CONTINUOUS
DESIGN CAPACITY AVERAGE DAY FLOW (1986)	17.184 13.225
POPULATION SERVED	14636
% OF TOTAL FLOW ATTRIBUTED TO	
INDUSTRIAL SOURCES	19
COMMERCIAL SOURCES (Populationx 0.0757)	8
RESIDENTIAL SOURCES (Population x 0.175)	19
(Fopulation x 0.175)	19
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from industrial, commercial and residential sources)	ON 53
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES SOURCES OF MUNICIPAL WATER POLLUTY NO OF SIC CATAGORIES	62

## GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

WORKS NUMBER	SIC # OF COMP	ANIES
TREATMENT TYPE ASBESTOS MFG	3292-3292	1
DESIGN CAPACITY (1000 m3/d)	3353-3355	1
1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	2821-2824 3070-3079	1 5
MISC FABRICATED METAL PROD.	3490-3499	1

## % OF TOTAL FLOW ATTRIBUTED TO:

INDUSTRIAL SOURCES (%)

# OPERATIONAL EVALUATION FOR: LINDSAY LAGOON

TREATMENT FACILITY: Other (Lagoon) PERIOD ENDING: April 24, 1987 SAMPLING SEASON: Summer (Marm Weather)

DESIGN AVG FLOW: 17,180 m3/d

1				PRE-SAP	PLING PERI	OD		
2 2 2 2	PARAMETER :	DAY 1 1	DAY 2	DAY 3 :	DAY 4 :	DAY 5	DAY 6 (	DAY 7
1==	!	!	::::::::::::::::::::::::::::::::::::::	: !		: : : : : : : : : : : : : : : : : : :	:======== !	
3 1	RAN SENASE FLOW	29,127	28,890 :	26,654	24,863	23,167	22,735	17,607
9	1	1	1	8	1	1	#	
1	Z of Design Flow	169.54%	168.167:	155.1521	144.72%	134.85%	132.331	102.492
	Influent BOD (mg/L)	29.7	35.1		61.3 :			
3 9	Primary BOD (mg/L)	4	1	2 2	*	2 2	1	
2 2 2 2 2 2	Secondary BOD (mg/L) : % PRIMARY REMOVAL :	17.6	14.5 (	3	14.7	3	1	
1	1 SECONDARY REMOVAL :	40.72	58.71		76.01	!	!	
9 9 9	Influent SS (eg/L)	48.6	43.9	1	45.4			
8	Primary SS (mg/L) Secondary SS (mg/L)	25.0	20.6	1	13.3	1	1	
8 8	Z PRIMARY REMOVAL :	48.621	53.11	i	70.71	1	i	
	Influent NH4 (mg/L)	7.9	8.4		10.9			
9 9	Primary NH4 (mg/L) : Secondary NH4 (mg/L) :	9.3 1	8.3 :	2 2 3	8.9 1	8 8 2	1	
2 2 2 2	Z PRIMARY REMOVAL : Z SECONDARY REMOVAL :	-17.7%	1.21	3 2 0	18.32	8 8 8	1	
3	Influent TKN (mg/L)	12.5	13.0		14.5			
8	Primary TKN (mg/L)	1	1	8 9	*	1	1	
2 2	Secondary TKN (ag/L)	12.2	11.8	:	10.7	1	*	
9 9	Z PRIMARY REMOVAL : Z SECONDARY REMOVAL :	2.421	9.21;	;	26.21	1		
1 1	& DECUMUNIT KEMUVHL i	4.761	7,661	i !.	20.26i	i !-	i !-	
:	Influent Total P (mg/L) : Primary Total P (mg/L) :	4.10	4.30	1	3.10	1	;	
2 3	Secondary Total P (mg/L) : I PRIMARY REMOVAL	0.60	0.50	1	0.30	9 8		
1	Z SECONDARY REMOVAL	85.47	88.42	i	90.32	i	1 9	

## OPERATIONAL EVALUATION FOR: LINDSAY LAGOON

.

TREATMENT FACILITY: Other (Lagoon) PERIOD ENDING: April 24, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 17,180 m3/d

11				PRF-SA	MPLING PER	מחז		11
11								
11	PARAMETER	DAY B :	DAY 9 :	DAY 10 :	DAY 11 :	DAY 12 1	DAY 13 1	DAY 14 11
==								
11		1		1	1	1	1	11
11	RAW SEWAGE FLOW	16,343 :	17,707 :	17,371 :	18,753 1	16,652 :	15,470	13,797 !!
11	% of Design Flow	95.13%	103.072:	101.11%;	109.1621	96.931:	90.052	80.31211
11	A DT Design Flow	75.1361	103.0721	101.1141	107.1041	70.7361	70.0341	00.31211
11								!! !!
11	Influent BOD (mg/L)	64.1 1			1	;	i	11
11	Primary BOD (eg/L)	;	;	1	:	1	1	11
11	Secondary BOD (mg/L)	6.9 :	:	:	1	1	1	!:
11	Z PRIMARY REMOVAL	1	1	1	1	1	1	11
11	% SECONDARY REMOVAL	89.2%	:		1	1	1	11
11	Influent SS (mg/L)	58.8	;	;				:::
11	Primary SS (mg/L)	38.8		,	1		•	11
11	Secondary SS (mg/L)	12.9			i			::
11	I PRIMARY REMOVAL	1211						
11	% SECONDARY REMOVAL	78.12:	1		1	1	1	- 11
11								
11	Influent NH4 (mg/L)	10.9 1	:	;	;	;	:	11
11	Primary NH4 (mg/L)	1	1	1	- 1	1	1	
11	Secondary NH4 (mg/L)	8.1	:				1	- !!
11	Z PRIMARY REMOVAL :	25.7%	i	i	i	i	i	**
!!	A SECURDART REDUVAL	23.76	·!	i !	i !-	i !!	i !.	!! !!!!
11	Influent TKN (ag/L)	17.3						11
11	Primary TKN (mg/L)		i		i	i		- 11
11	Secondary TKN (mg/L)	10.4 ;	;	1	1	1		- !!
11	I PRIMARY REMOVAL	1	1	+	1	1	1	
11	Z SECONDARY REMOVAL	39.921	1		1	1	1	
11								
11	Influent Total P (mg/L)	6.50			1			11
11	Primary Total P (mg/L) : Secondary Total P (mg/L) :	0.30	1	i	i		i	- ;;
11	2 PRIMARY REMOVAL	0.30 1	3		1			"
11	% SECONDARY REMOVAL	95.41			1			- 11
====								

# LINDSAY LAGDON

TREATMENT FACILITY: Other (Lagoon)
PERIOD ENDING: April 24, 1987
SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 17,180 m3/d

 PARAMETER  RAW SEWAGE FLOW  Z of Design Flow	DAY 15 :			DAY 18 ;			1 DAY 21
RAW SEWAGE FLOW	13,324	16,679		,		=======	
	1	16,679			1		1
 I of Design Flow	77 5141		15,556	14,652	15,020		1
	17.3041	97.08%	90.55%	85.29%	87.432		
Influent BDD (mg/L)							
Primary BOD (mg/L)	1	2	1	2 2	1		1
Secondary BOD (mg/L)	1	1	2 2	:	3		1
I PRIMARY REMOVAL	1	:	;	2	;		i
% SECONDARY REMOVAL			i	•			!
 Influent SS (mg/L)		;	;	;	;		-;
Primary SS (mg/L)			,				
Secondary SS (ag/L)			:	:			:
% PRIMARY REMOVAL		;					i
% SECONDARY REMOVAL		1	1	1	ł		1
 Influent NH4 (mg/L)							-{
Primary NH4 (mg/L)		!		1	!		1
Secondary NH4 (mg/L)				:			
1 PRIMARY REMOVAL		- ;	1				1
1 SECONDARY REMOVAL		!	1	1	1		1
 Influent TKN (mg/L)		;	;	;	:		-} !
Primary TKN (mg/L)							;
Secondary TKN (mg/L)		;		1			1
2 PRIMARY REMOVAL	1	1 1	1	1 1	1		1
% SECONDARY REMOVAL	:	;	8	1	:		1
 Influent Total D /a-//							-
Influent Total P (mg/L) Primary Total P (mg/L)		i	i	i	i		i i
Secondary Total P (mg/L)		1	1		1		1
% PRIMARY REMOVAL		1	!				!

PLANT NAME: Lindsay PLANT TYPE: Lagoon

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

GLOBAL & PREV.	1000 1000 1000 1000 1000 1000 1000	97.1 100.0 56.8 51.4 100.0 97.3 89.2 89.2 87.7 70.3	<b>4 8</b>	180 181 180 180 180 180
GLOBAL SPREAD FACTOR	1.93 1.82 1.81 1.81 1.05 1.05 1.93	228 211 2112 1.72 1.86 2.68 2.68 6.88 6.88 2.58 2.09	246	372 314 229 166 139
PLANT SPREAD FACTOR	1.82 1.06 1.06 1.26 1.28 1.29 1.43	0.00 1.42 3.59 2.14 1.78 1.78 1.56 2.30 2.37 2.37 2.20 2.20 2.20 2.20 2.20	2.80	135 435 136 253
GLOBAL GEO. MEAN	287.75 22.39 22.39 15.37 25.44 6.90 5.18	110.60 0.23 12.40 59.50 211.00 1000.10 51.10 1.90 9.30 10.40 6.50	14.52	0.13 0.00 0.00 0.01 0.01
PLANT GEO. MEAN	72.85 15.74 15.58 10.17 16.59 7.40 6.57 68.25	\$0.00 100.00 250.00 150.00 150.00 30.00 10.00 10.00 10.00 000	59.48	0.25 0.02 0.00 0.00 0.00
GLOBAL S. FREQ. DET.	99.6 100.0 100.0 100.0 100.0 99.6	98.0 17.1 17.1 99.7 13.6 13.6 13.6 13.6 13.6 13.6	42.9	77.5 17.0 51.8 11.6 4.0
GLOBAL # DET	266 228 271 271 273 273 248 266	48 274 41 41 57 318 318 306 237 82 82 76	8	214 143 32 11
GLOBAL # SAMPLES	267 260 271 273 273 273 275 275 278	49 283 322 322 322 322 322 322 322 322 322	\$112	276 276 276 276 276
PLANT % FREQ. DET.	100.0 100.0 100.0 100.0 100.0	100.0 100.0 100.0 100.0 100.0 83.3 40.0 33.3 16.7	0.001	0.0.0.0 0.0.0.0 0.0.0.0
PLANT DET.			<b>S</b>	ευ 4 td ≃ ≃
PLANT # SAMPLES	10 10 10 10 10 10 10 10 10 10 10 10 10 1		<b>v</b> s .	
MAX. DET. CONC.	120.00 202.00 16.70 11.70 19.30 7.57 10.50 96.00	\$0.00 0.13 \$50.00 \$70.00 280.00 1450.00 10.00 70.00 20.00	170.50	0.40 0.03 0.03 0.08
ರ	27.30 98.00 14.40 6.90 10.70 7.24 5.03	20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00	19.50	0.19 0.20 0.03 0.02 0.08
UNITS QC PLANT CODE MIN. CON PL			MPOUNDS upf. 2	D 44, 3
CONTAMINANT NAME	ONALS  CHEMICAL OXYGEN DEMAND CHEMICAL OXYGEN DEMAND DISSOLYED ORGANIC CARBON AMMONIUM, TOTAL PILT REAC. HITROGEN-TOT-KIEL, UNP. TOT (-LOCKH-CONCN) PHOSPHORUS, UNPILT: TOTAL RESIDUR, PARTICULATE	COFFER, UNFILT. TOTAL MOLYBERUMY, UNFILT. TOTAL LEAD, UNFILT. TOTAL LEAD, UNFILT. TOTAL ZINC, UNFILT. TOTAL ZINC, UNFILT. TOTAL ZINC, UNFILT. TOTAL ALUMINUM, UNFILT. TOTAL GEROMIUM, UNFILT. TOTAL CYANIDE. FREE, UNFILT. TOTAL SILVERI, UNFILT. TOTAL SILVERI, UNFILT. TOTAL SILVERI, UNFILT. TOTAL CADMIUM, UNFILT. TOTAL CADMIUM, UNFILT. TOTAL	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS PMPHEN PHENOL PESTICIDES, HERBICIDES, PCBS	24-DICH,OROPHENOXYAGETIC ACID METHOXYCH,OR METAMA-BHC(EXCHLORCYCLHEXANE) BETA-BHC (EXCHLORCYCLHEXANE) HEXACHLOROBENZENE
CONTAM- INANT	CONVENTIONALS BODS BODS COD DOC DISSO NUHTPR NUTKUR PH PHUT PHOSF RSP RSSI	METALS COUT PRUT PRUT SRUT SAUT CRUT CRUT CRUT CRUT CRUT CRUT CRUT CR	BASE NEUT PMPHEN PESTICIDE	P32AD P1DMDT P1BHCG P1BHCB

SAMPLING TYPE : Final Effuent

GLOBAL S. FREV. 999999 GLOBAL 1.18 1.18 1.18 1.18 1.18 1.18 525655 85 3 3 3 3 SPREAD FACTOR ## 66 4 4 1 6 1 F 25666666 171.20 0.01 11.90 11.90 11.90 6.90 6.30 8.30 25.95 70.64 10.09 0.60 0.42 1.65 1.92 0.26 0.26 GEO. GEO. MEAN 000000 SAMPLE FORM : Wet Weight 0.00 10.00 10.00 10.00 10.00 10.00 16.38 9.03 5.60 0.13 0.55 9.15 7.99 0.26 0.00 GEO. MEAN GLOBAL S. FREQ. DET. 0.000 0 000000 GLOBAL PET. 3022566 P 4 2 2 2 2 0000000000 GLOBAL SAMPLES 000000 2222222 00000000000 \* FREQ. 80.0 80.0 20.0 20.0 20.0 0.000 0 100.0 100.0 83.3 33.3 16.7 16.7 HANT DET. \*\*\*\*\* SAMPLES MANT \*\*\*\* MIN. CONC. MAX. DET. 240.00 200.00 20.00 0.00 10.00 56.00 6.35 6.35 6.35 6.35 6.36 6.30 8.38 0.00 14.00 4.75 0.11 0.20 7.74 7.74 190.00 10.00 10.00 10.00 10.00 0.03 STD. BED. ONT-MOE NYS-STD PLANT NAME : Lindsay PLANT TYPE : Lagoon STO. FOR SURFACE 0.20 30.00 30.00 0.20 25.00 5.00 0.04 WATER UNITS QC 000000000 0000000 ---\$\$\$\$\$\$\$ 33 55555555 555555 1,24-TRICHLOROBENZENB GAMMA-BHCHEXCHLORCYCLHEXANB) 24-DICHLOROPHENOXYACETIC ACID HEXACIE OROCYCLOPENTADIENE AMMONIUM,TOTAL FILT REAC. NITRITE,FILT. REACT. NITRATES,TOTAL PILT.REAC. NITROGEN-TOT-KJEL,UNF.TOT ZINC,UNPILT;TOTAL
CADMIUM,UNPILT;TOTAL
NICKEH, UNPILT;TOTAL
COBALT,UNPILT;TOTAL
MOLYBBENUM,UNFILT;TOTAL CONTAMINANT NAME DISSOLVED ORGANIC CARBON BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND (-LOG(H-(CONCN))
PHOSPHORUS, UNPILITOTAL
RESIDUR, PARTICULATE STRONTIUM, UNPILT, TOTAL ALUMINUM, UNPILT, TOTAL MERCURY, UNPILT, TOTAL ESTICIDES, HERBICIDES, PCBS METHOXYCHLOR HEPTACHLOR CONVENTIONALS DOC NNHTPR NNOZFR NNTRUR PH PPUT RSP CONTAM. X2124 P1BHCG P1HEPT X1HCGP METALS ALUT SRUT ZNUT CDUT NIUT COUT P324D

		0905	10000	TOTAL .	1/10
M					
3					
4					
Ш					
- 13					

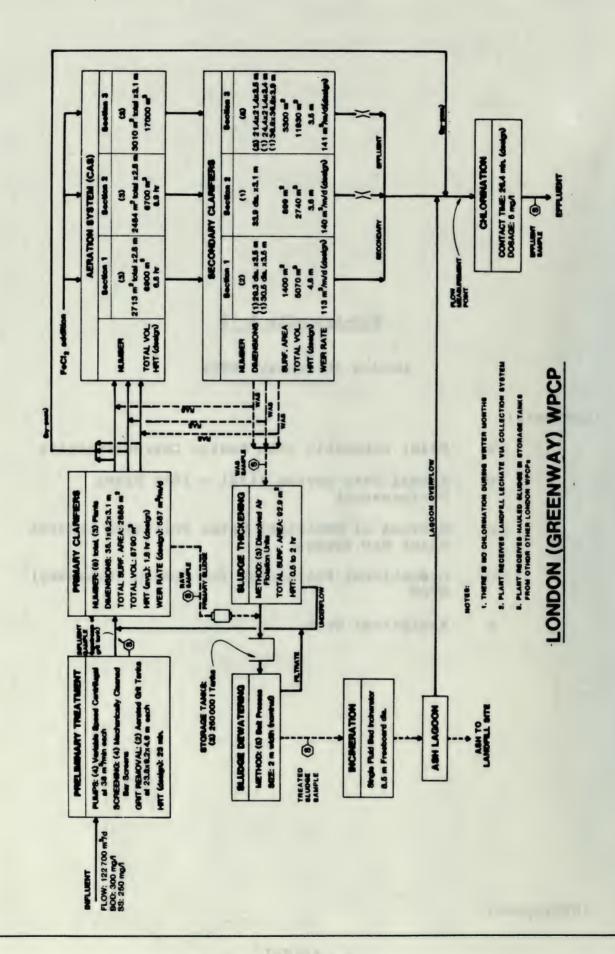
# Sub-Appendix A-12

# London (Greenway) WPCP

### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for London (Greenway) WPCP
- o Analytical Data

(KIR18/28A)



SREENWAY WPCP
Conventional Activated Sludge
Phosphorus Removal - Continuous
Capacity - 123.333 18(3)m3/day

PARAMETER	1981	1982	1983	1984	1985	: MEAN : ANNUAL : AVERAGE
Avg. Daily Flow (1888 m3/day)	103.65	123.78	122.37	127.78	131.97	121.87
BOD5 - Influent (mg/L)	178.28	151.18	153.00	156.08	198.92	164.26
BODS - Effluent (mg/L)	4.18	4.88	3.58	4.92	5.17	4.34
Annual BOD5 Significantly Different from Mean	8	1	1	1		1
Annual Average BOD5?	1.0.	i 1.D.	1.0.	i I.D.	1.0.	1
		1	1	1	1	1
,		1				!
TSS - Influent (mg/L)	284.88	112.78	155.00	1 179.42	157.00	161.78
TSS - Effluent (mg/L)	7.48	7.30	6.98	9.33	9.58	8.18
Annual TSS Significantly Different from Mean	1	;	1	1	1	1
Annual Average TSS?	1.0.	i I.D.	1.0.	1.0.	i I.D.	1
		1		1		1
				1	1	
Total P - Influent (mg/L)	6.68	6.16	5.58	6.44	5.61	6.86
Total P - Effluent (mg/L)	1.83	1.19	0.99	8.93	8.77	8.98
Annual TP Significantly Different from Mean		1	1	!	1	1
Annual Average TP?	1.0.	1.0.	1.D.	1.0.	1.D.	:
TP in Compliance?	H	1 N	Y	Y	i y	. Y

I.D. - Insufficient Data

## SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

# GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

GENERAL DESCRIPTION OF WATER POI	LLUTION CONTROL PLANT (WPCP)	
NAME OF WPCP	GREENWAY WPCP	
WORKS NUMBER	120000863	
TREATMENT TYPE	CONVENTIONAL ACTIVATED SLU	DGE
	PHOSPHORUS REMOVAL CONTINU	
DESIGN CAPACITY (1000 m3/d)	124.330	000
1986 AVERAGE DAY FLOW (1000 m3/c		
POPULATION SERVED	164614	
	The second second	
% OF TOTAL FLOW ATTRIBUTED TO:		
INDUSTRIAL SOURCES (%)	8	
INDUSTRIAL COORCES (8)	2411122 - 1	
COMMERCIAL SOURCES (%)		
(Population x 0.0757)	10	
RESIDENTIAL SOURCES (%)		
(Population x 0.175)	23	
UNACCOUNTED FOR, INCL. INFILTRAT	rion 59	
(100-% Contributed from		
industrial, commercial and		
residential sources)		
PROFILE OF INDUSTRIES IN CATCHME	NIT	
TOTAL NO OF INDUSTRIES	425	
INDUSTRIES WITH WATER	115	
NO OF SIC CATEGORIES	47	
NO OF SIC CAIEGORIES		
DESCRIPTION OF THE TOP 5 INDUSTR	RIES DISCHARGED TO THE WPCP	
(BASED ON WATER USE DATA)		
DESCRIPTION	SIC # OF	
	COMPANIES	
	the same of the same of	
BEVERAGES	2082-2087 1	
DAIRY	2021-2026 2	
FRUIT/VEGETABLES	2032-2038 3	
APPAREL AND OTHER TEXTILES	2311-2399 15	
	0.404.0404	

ELECTROPLATING

3471-3471

## OPERATIONAL EVALUATION FOR: LONDON GREENWAY WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: February 20, 1987

SAMPLING SEASON: Winter (Cold Weather)
DESIGN AVG FLOW: 122,700 m3/d

				PRE-SA	MPLING PER	IOD		
	PARAMETER	DAY 1 :	DAY 2 i	DAY 3	DAY 4 :	DAY 5 !	DAY 6 :	
==		}	;		:	::::::::::::::::::::::::::::::::::::::	;	
	RAW SEWAGE FLOW	116,698	107,151 :	103,333 :	104,924	107,333 :	98,696 ;	100,741
	I of Design Flow	95.112	87.33X	84.2221	85.517	87.48%	80.447	82.102
	Influent BOD (mg/L)		185.0 ;	287.0 (	251.0 ;			
	Primary BOD (mg/L)		135.0 :		159.0 ;			
	Secondary BOD (mg/L)		7.0 :		7.0 1	1		
	I PRIMARY REMOVAL	2	27.021			1	1	
	% SECONDARY REMOVAL	1	96.211			2 2	1	
	Influent SS (mg/L)	215.0	158.0 ;		160.0	108.0	67.0	104.0
	Primary SS (mg/L)	89.0 :	32.0 :		88.0 :		1	107.0
	Secondary SS (ag/L)	14.0 :	8.0 :				9.0 1	7.0
	I PRIMARY REMOVAL	58.61					1	-2.91
	I SECONDARY REMOVAL	93.51	94.91	85.71	85.01	92.61	86.61	
	Influent NH4 (mg/L)				;			
	Primary NH4 (mg/L)				:			
	Secondary NH4 (mg/L)				:			
	Z PRIMARY REMOVAL					i	i	
	% SECONDARY REMOVAL			1			1	
	Influent TKN (mg/L)	1	1	1	1	1	1	
9	Primary TKN (mg/L)	1	:	*	1	1	1	
2	Secondary TKN (mg/L)	1	1	1	:	1	3 5	
8	I PRIMARY REMOVAL	\$ 2 2	3	1	1	1	8	
1	I SECONDARY REMOVAL	1 1	1	1 1	1	1	1	
		;						
1	Influent Total P (mg/L)	9.20		6.30 :	6.40			
9 8	Primary Total P (mg/L)	1 1		0.00	4 40			
8	Secondary Total P (mg/L)	1.40	0.80	0.90	1.40		i	
8	I PRIMARY REMOVAL I SECONDARY REMOVAL	: 84.8%	88.17	85.71;	78.12	i	i	

#### OPERATIONAL EVALUATION FOR: LONDON GREENWAY WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: February 20, 1987 Winter (Cold Weather) SAMPLING SEASON:

DESIGN AV6 FLOW: 122,700 m3/d

				PRE-SA	MPLING PER	IOD		3
     	PARAMETER	DAY 8 :	DAY 9 :	DAY 10 :	DAY 11 :	DAY 12 :	DAY 13	DAY 14
	RAN SENAGE FLOW	108,970	109,924	102,924	103,515	101,287 4	85,967	87,148
	% of Design Flow	88.811	89.591	83.881	84.362	82.551	70.062	71.032
	Influent BOD (mg/L)	237.0	148.0 ;	301.0 :		146.0 :	133.0	188.0
1	Primary BOD (mg/L)	61.0 1	75.0 1	87.0 :	76.0 :	1 1		57.0
11	Secondary BDD (mg/L)	15.0 :	13.0 1	11.0 ;	10.0 :	17.0 ;	6.0	11.0
11	% PRIMARY REMOVAL	74.3%	49.321	71.1%	49.7%	1		69.72
11	2 SECONDARY REMOVAL	93.71	91.221	96.31	93.421	88.411	95.5%	94.12
 	Influent SS (mg/L)			;				
1	Primary SS (mg/L)		1			1		
1	Secondary SS (mg/L)			1	1	1		
1	2 PRIMARY REMOVAL	1		1	:	1		
11	1 SECONDARY REMOVAL		1	1	9 1	1		
	Influent NH4 (mg/L)							
	Primary NH4 (mg/L)							
	Secondary NH4 (mg/L)				:			
	Z PRIMARY REMOVAL					1		
1	% SECONDARY REMOVAL		-		1			7
:	Influent TKN (mg/L)							
	Primary TKN (mg/L)			i		1		
	Secondary TKN (mg/L)			1				
	% PRIMARY REMOVAL							10.0
!!	Z SECONDARY REMOVAL					1		
11	Influent Total P (mg/L)	7.90 1	8.10	6.20 1	4.70 !	1		7.10
11	Primary Total P (mg/L)			1		1		
11	Secondary Total P (mg/L)	1.00	1.20 :	0.06	0.30 :			0.50
::	Z PRIMARY REMOVAL	1	1	1	1	1		0.2
1 1	% SECONDARY REMOVAL	87.3%	85.2%	99.021	93.61:	1		93.01

## OPERATIONAL EVALUATION FOR: LONDON GREENWAY WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: February 20, 1987 SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVG FLOW: 122,700 m3/d

1				SAMP	LING PERIO	D	
PARAMET	_	Y 15 ¦	DAY 16 ;		DAY 18 3		
0	1 1	1	1	;			1
RAW SEWAGE FLOW	i 9.	7,332 :	98,196	99,696 1	101,287	100,560	1
l I of Design Flo	DW :	79.331	80.032	81.251	82.55%	81.961	1
Influent BOD (s	ag/L) :	} :		221.0	210.0		 
! Primary BOD (mg		1	2 2	165.0 :	171.0 :		2 8
Secondary BDD (		1	1	3.0 }	6.0 :		1
1 % PRIMARY REMOV	•	1 1	1	25.3	18.6 ;	1	8
: 2 SECONDARY REM	10VAL	1	8	98.6	97.1 1	1	1
Influent SS (mg	1/L)	125.0	171.0	171.0	192.0 ;	287.0	 1
! Primary SS (mg/		36.0 :	59.0 :	87.0 :	76.0 :		8 8
1 Secondary SS (	ng/L) :	4.0 :	15.0 1	6.0 1	12.0 :	20.0	1
: I PRIMARY REMOV	VAL :	71.2 :	65.5 1	49.1 ;	60.4	1	2 0
I SECONDARY REM	HOVAL	96.8	91.2 1	96.5	93.7 :	93.0	1
Influent NH4 (a	ag/L)	:			; 1		
Primary NH4 (mg	•	1		1	1		1
Secondary NH4	•			1	3		1
I PRIMARY REMDA	•	1		1	;		1
1 SECONDARY REP	HOVAL :	2 1	1	1	3 3		1 2
1	- 41)						 
Influent TKN (		i	i	i	i		1
Primary TKN (mg	•	i	i	i	i		
Secondary TKN	•	i	i	i	i		9
I PRIMARY REMOV	-	i	i	1	i	i	8
L SELUMURAT KE		!		i !	!		 !
Influent Total	P (eg/L)	6.80	8.80	5.50	4.00	3	2
Primary Total		1	1	1	1		*
Secondary Total	•	1.00	1.00 ;	0.30 :	0.40		:
: I PRIMARY REMD	-	1	1	1			1
: I SECONDARY REI		85.3 1	88.6 1	94.5	90.0 :		:

#### LONDON GREENWAY WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: July 10, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: 122,700 m3/d

11				PRE-SAI	IPLING PER	100		
11	PARAMETER	DAY 1	DAY 2 :	DAY 3 :	DAY 4 :	DAY 5 :	DAY 6 :	DAY 7
11=				***********		,		,
11	RAN SENAGE FLON	105,197	113,289	109,334	95,650	102,514	88,058	86,785
11	7 of Design Flow	85.74%	92.3321	89.11%	77.95%	83.552	71.772	70.732
11								
11	Influent BOD (mg/L)		280.0	194.0 1		i	110.0	134.0
1 1	Primary BOD (mg/L)	1	164.0 1	152.0 :	1	1	1	104.0
11	Secondary BDD (mg/L)		14.0 :	10.0 ;	1	1	5.0 1	6.0 1
11	Z PRIMARY REMOVAL	1	41.421	21.6%	;	1	1	22.4%
11	% SECONDARY REMOVAL	1	95.01	94.8%:	- 1	1	95.511	95.51
11-	Influent SS (mg/L)	318.0	275.0	328.0 1	1079.0	342.0 1		137.0
11	Primary SS (mg/L)	66.0 :	74.0 1	66.0 1	122.0 1	82.0 1	- 1	58.0
!!	Secondary SS (mg/L)	21.0 1	15.0 1	12.0 :	17.0 :	17.0 1		9.0 :
11	Z PRIMARY REMOVAL	79.2%		79.921	88.71	76.0%	1	57.72
11	Z SECONDARY REMOVAL	93.421	94.51	96.321	98.4%	95.011	1	93.421
- 	Influent NH4 (mg/L)							
11	Primary NH4 (mg/L)		- ;	- 1	1	;	1	
11	Secondary NH4 (mg/L)	1	1	- ;	,	,		
11	1 PRIMARY REMOVAL		1	- :	1	1		
11	I SECONDARY REMOVAL		- 1		1		1	
11-	A SECONDARY KENOVAL	 		·		·	·	
11	Influent TKN (mg/L)		1	1	1	1	411	
11	Primary TKN (mg/L)	1	1	1	;	1	- 1	- 1
1 2	Secondary TKN (mg/L)	1	1	:	1	;	1	
2 2	1 PRIMARY REMOVAL	1	1	1	;	;	1	
11	Z SECONDARY REMOVAL	1	;	:		1	1	
11-	Influent Total P (ag/L)	8.10	9.10 (	9.40 1	25.00			4,40
11	Primary Total P (mg/L)	8.10	7.10 1	7.40 i	23.00 1			1.10
11	Secondary Total P (mg/L)	0.90 1	0.70 :	1.00 :	0.70 :		i	0.30 1
11	2 PRIMARY REMOVAL		:	1	1	1	1	:
11	I SECONDARY REMOVAL	88.97	92.321	89.421	97.21!	1	1	93.21

### LONDON GREENWAY MPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: July 10, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 122,700 m3/d

e R				PRE-SA	MPLING PER	100		
3 2	PARAMETER	DAY 8	DAY 9				DAY 13 :	DAY 14
==								
1	RAW SEWAGE FLOW	99,241 ;	102,196	94,695	101,787	102,196	94,650	83,557
2 2 2	Z of Design Flow	80.881	83.292	77.181				
	Influent BOD (mg/L)			262.0	176.0			198.0
	Primary BOD (mg/L)			131.0 ;				90.0
8 9	Secondary BOD (mg/L)			4.0 :				2.0
	% PRIMARY REMOVAL		1	50.01			1	54.52
3 3	1 SECONDARY REMOVAL	1		98.51			1	99.02
	Influent SS (mg/L)	372.0	260.0	329.0	145.0			89.0
		100.0 :	1	74.0 :	51.0 :	66.0 :	1	40.0
	Secondary SS (mg/L)	13.0 1	3.0 :	6.0 1	6.0 1	16.0 ;	9.0 :	9.0
	Z PRIMARY REMOVAL :	73.11:	1	77.5%	64.8%	68.421	1	55.12
1	Z SECONDARY REMOVAL	96.5%	98.81	98.211	95.9%	92.321	92.61	
	Influent NH4 (mg/L)							
	Primary NH4 (mg/L)		4	1	1	1	:	
1	Secondary NH4 (mg/L)	1	3	1	1	:	;	
	I PRIMARY REMOVAL	1	1	2 3	1	2 8	1	
	Z SECONDARY REMOVAL	:	1	1	2	:	1	
	Influent TKN (mg/L)		i	;	;	;	+	******
1	Primary TKN (mg/L)	1	1	1	:	1	2 2	
	Secondary TKN (mg/L)	1	*	1	8 2	3	1	
	Z PRIMARY REMOVAL	1	8 1	1	1	1	1	
	I SECONDARY REMOVAL	1		:	2	1	:	
	Influent Total P (mg/L)	10.30	8.10	8.10	1	; !	;	3.80
	Primary Total P (mg/L)		1	1	:	;	1	
	Secondary Total P (mg/L)	1.00 ;	0.60	0.40 :	1	3 1	1	0.40
	I PRIMARY REMOVAL	1	1	!	1	;	1	
	I SECONDARY REMOVAL	90.31	92.6%	95.171	3 2	8 8	1	89.57

## OPERATIONAL EVALUATION FOR: LONDON GREENWAY WPCP

TREATMENT FACILITY: Secondary PERIOD ENDING: July 10, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: 122,700 m3/d

			SAMP	LING PERIO	D		
PARAMETER	: DAY 15 :	DAY 16 :	DAY 17 :		DAY 19		
RAN SEWASE FLOW	92,604	110,834	105,378	102,605	107,834		1
% of Design Flow	75.47%	90.331	85.88%	B3.621	89.51%		3 3 8
Influent BOD (mg/L)		368.0	209.0	166.0			
Primary BOD (mg/L)	1	308.0 1	165.0 :	56.0 1			1
Secondary BDD (mg/L)	1	4.0 1	13.0 1	6.0 :			1
7 PRIMARY REMOVAL	1	16.3 :	21.1 :	66.3 1			1
Z SECONDARY REMOVAL	1	98.9 !	93.8 !	96.4			
Influent SS (mg/L)	311.0	200.0	279.0	166.0	230.0		
Primary SS (mg/L)	69.0 1	75.0 1	78.0 :	56.0 1	70.0		1
Secondary SS (mg/L)	10.0 1			6.0 1			1
% PRIMARY REMOVAL	77.8 1	62.5	72.0 1	66.3 :	69.6		1 1
Z SECONDARY REMOVAL	96.8	94.5	93.2 1	96.4	99.1		
Influent NH4 (ag/L)							
Primary NH4 (mg/L)	1 1	;	- 1	1			1
Secondary NH4 (mg/L)	: :	!	1	;	1		1
I PRIMARY REMOVAL	1 1	;	:	:	1		1
Z SECONDARY REMOVAL			i				1
Influent TKN (mg/L)	1				I la		
Primary TKN (mg/L)	1 1	;	1	:		17 (2)	1
Secondary TKN (mg/L)	1 1	1	1	1			1
2 PRIMARY REMOVAL	1 1	;	;	1	i		
Z SECONDARY REMOVAL	!!						-
Influent Total P (mg/L)	6.90	6.50	6.00	5.00		1.71	
Primary Total P (mg/L)	1		1		11/1/1		
Secondary Total P (mg/L)	1 0.70 1	0.90 :	0.40 1	0.30 1	71117		
% PRIMARY REMOVAL	: :	1	i				1

PLANT NAME: London (Greenway)
PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

GLOBAL S. PREV. 37.8 10.8 10.8 10.8 8.1 80 57 GLOBAL SPREAD FACTOR 246 99 28842 .75 PLANT SPREAD FACTOR 2 2 2 2 2 2 2 2 3 2 3 3 3 3 3 3 3 58 10.55 25 55.55 GEO. GEO. MEAN 930.10 10.40 10.40 10.40 12.40 23.90 4.52 0.87 0000 GEO. MEAN 258.72 50.51 14.21 25.40 6.50 5.79 183.83 144.01 0.01 220.00 16.70 B.10 00.000 5.29 000000 GLOBAL % FREQ. DET. 228 8.0 8.0 8.0 8.0 5.5 99.5 99.5 99.6 99.6 13.4 13.5 4.4 42.9 GLORAL - 130 3 3 44260 28 SAMPLES GLOBAL 3 2225222222 273 276 274 MANT & FREQ. 100.0 100.0 100.0 100.0 131.3 20.0 0.0 0.08 0.0 PLANT ·04000= \*\*\* 2220-280--SAMPLES 000 22 000000-0000 2222222222 22222 MAX. DET. 345.00 644.00 184.00 16.10 29.00 6.77 8.20 326.00 221.00 0.03 20.00 20.00 30.00 43.60 41.00 220.00 330.00 10.00 0.00 CONC. 28.00 UNITS QC PLANT CODE MIN. CONC. 250.00 24.50 24.50 20.00 > w.DL 0.22 15.70 90.00 20.00 20.00 20.00 20.00 28.00 0.00 41.00 35555 3 35555 33 333 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS GAMMA-BITCHEXCHIORCYCLIEXANE) 245-TRICLORPHENOXYACETIC ACID MIREX 24-DICHLOROPHENOXYACKTIC ACID DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL, FILT, REAC. NITROGEN-TOT-KJEL, UNF.TOT CADMIUM, UNFILT: TOTAL COBALT, UNFILT: TOTAL MOLYBDBNUM, UNFILT: TOTAL **OCTACHLORODIBENZODIOXIN** CHEMICAL OXYGEN DEMAND BOD, S DAY - TOTAL DEMAND PHOSPHORUS, UNPILT. TOTAL RESIDUE, PARTICULATE RESIDUE, PARLOSS ON IGNI. NITRITE, PILT. REACT. MERCURY, UNFILT. TOTAL, STRONTIUM, UNFILT. TOTAL CHROMIUM, UNPILT. TOTAL ALUMINUM, UNPILT, TOTAL CONTAMINANT NAME VOLATILES ORGANIC COMPOUNDS COPPER, UNPILLT. TOTAL. NICKEL, UNITIL T. TOTAL TRICHLOROETHYLENE CHLOROFORM SILVER, UNPILIT TOTAL ZINC, UNITIL T. TOTAL (-LOG(H+(CONCN)) PESTICIDES, HERBICIDES, PCBS PHENOLICS (4AAP) **ENTROPHENOL** DIOXINS AND FURANS PHENOL. CONVENTIONALS CONTAM. NNTHER RSP RSPLOI NNOZPR PHINOL PIBHCO P3245T PIMIRX PIPPOT XITRIC METALS P98CDD SRUT ZNUT NIUT AGUT COUT COUT

PLANT NAME: London (Greenway)
PLANT TYPE: Secondary

SAMPLE FORM : Wet Weight

GLOBAL % FREV. 3 8333822559 7. GLOBAL SPREAD FACTOR 282822822628 343 5755555555 7 2.85 35555555 PLANT SPREAD FACTOR 219 9,00 113,10 0,03 22,10 340,90 53,30 6,60 101,70 2,10 11,30 6,40 21.22 22.80 8.09 3.90 0.22 2.33 1.97 1.10 0.68 0.05 0.31 32 GEO. MEAN 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 5.37 5.81 5.12 5.12 5.12 6.76 0.08 0.08 1.28 GEO. MEAN GLOBAL S. FREQ. DET. 99.1 100.0 91.5 88.2 88.2 88.2 89.5 97.6 97.6 97.6 252225855 13 GLOBAL E88E882583343 GLOBAL SAMPLES 224 PLANT % FREQ. DET. 100.0 100.0 100.0 100.0 100.0 10.0 8.3 0.0 PLANT DET. 0000000000000 SAMPLES PLANT 2~222222222 222222222 9 \* 5 \* 5 \* 6 6 6 5 5 \* \* 6 20.00 210.00 210.00 210.00 20.00 20.00 20.00 10.00 MIN. CONC. MAX. DET. > DL CONC. 72.00 9.10 9.10 9.10 9.10 8.15 8.15 8.15 12.00 12.00 12.00 12.00 0.55 230 0.05 0.06 0.07 0.07 0.09 10.00 20.00 20.00 20.00 10.00 10.00 10.00 12.00 8.00 6.00 0.31 1.30 1.20 6.39 0.31 7.50 0.31 0.55 0.00 0. ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOB ONT-MOB ONT-MOB NYS-STD ONT-MOR STD. FOR STD. REF. DNT-MOB ONT-MOR SURFACE 20.00 150.00 5.00 25.00 25.00 30.00 30.00 000 25.00 25.00 5.00 5.00 9 9 9 9 9 9 9 9 9 9 WATER CODE SHIND 3333333333 3 3333 222222222222 P. 24-DIGHLOROPHENOXYAGETIC ACID GAMMA-BHCHEXCHLORCYGJÆXANE) 24.5-TRICLORPHENOXYACETIC ACID BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL PLT. PEAC. NITRITE-PLT. REACT. CONTAMINANT NAME CADMIUM, UNPIL,T. TOTAL.
LEAD, UNPIL,T. TOTAL.
CYANIDE-PREE, UNPIL,T. REAC.
COBALT, UNPIL,T. TOTAL. OCTACHLORODIBBNZODIOXIN MOLYBDENUM, UNFILT. TOTAL NITRATES, TOTAL FILT. REAC. PHOSPHORUS, UNFILT. TOTAL RESIDUE, PARTICULATE RESIDUE, PARTICULATE NICKEL, UNPILT. TOTAL STRONTIUM, UNPILT. TOTAL ALUMINUM, UNPILT. TOTAL CHROMIUM,UNFILT.TOTAL COPPER, UNFILT. TOTAL.
MERCURY, UNFILT. TOTAL. VOLATILES ORGANIC COMPOUNDS ALPHA-CHLORDANE GAMMA-CHLORDANE METHOX YCHLOR HEPTACHLOR ZINC, UNITILT: TOTAL ESTICIDES, HERBICIDES, PCBS (-LOG(IH-(CONCN)) PHENOLICS (4AAP) BARBAZ BTHYLBENZENE DIOXINS AND FURANS PP-DDD PP-DDE PP-DDT CONVENTIONALS PIBHCG PICHLA PIDMOT PIHEFT PIPED CONTAM. NNOZPR NNTKUR P98CDD PBUT CCNFUR COUT SRUT ZNUT MOUT HGUT 15IN A-12-12

		PLANT NAME: London (Greenway) PLANT TYPE: Secondary	AME: L	ondon (C	Sreenway						& &	MPLING MPLE FC	SAMPLING TYPE : Final Emuent SAMPLE FORM : Wet Weight	inal Efflue Vet Weigh	ž .				
NTAM.	CONTAMINANT NAME	UNITS QC 810. FOR STD. REF. FILANT CODE SURFACE MIN. CONC MATER > DL	DE SURFA	10 m	MEP.	-1	MAX. DET. CONC.	PLANT * SAMPLES	PLANT PET.	PLANT FIREQ. DET.	GLOBAL	GLOBAL # DET.	GLOBAL S FREQ. DET.	GEO. MEAN	GEOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.	
																7	,		
LATILES ORC	MATILES ORGANIC COMPOUNDS								,						90 1	2.84	1.46	101	
ZMPXY M.	IZMPXY M. AND P.XYLANES	uell 1	20.00	50.00 NY:	NYS-GUL ONT-MOB	17.00	17.00	000	perk perk (	10.0	77.7	n wn ș	173	133	1.05	33	148	2 4 5	
TETT TETT	TETRACIA OROETHYLENE	uel 1	3,4		GOT.	17.00	12.00	10		10.0	234	17	7.6	1.28	1.12	2.19	1.55	777	

GLOBAL GLOBAL SPREAD % PREV. FACTOR PLANT SPREAD FACTOR GLOBAL GEO. MEAN SAMPLING TYPE: Raw Studge SAMPLE FORM: Dry Weight GEO. MEAN GLOBAL. \* FREQ. DET. GLOBAL GLOBAL

\*
\*
\*
SAMPLES DET % FREQ. DET. PLANT
#
DET. UNITSQA'QC PLANT PLANT PLANT (DRY CODE MIN. CONC. MAX. DET. # WEIGHT) > DL. CONC. SAMPLES PLANT NAME: London (Greenway)
PLANT TYPE: Secondary CONTAM: CONTAMINANT NAME INANT

	100.0 100.0 100.0 100.0 100.0 100.0 85.3	100.0 97.1 100.0 100.0 93.3 96.9 100.0 100.0	833	# #	4.67	41.2 20.5 30.3
	3.19 2.21 2.22 1.10 2.83 1.81 1.81 3.54	2.51 2.01 3.68 1.72 1.67 2.24 2.24 1.93 1.97	12.16	3.60	3.18	3.86 2.51 4.24
	1.00 1.00 1.00 1.00 1.00 1.00 1.00	11.28 1	27	1.48	1.2	2.49 1.84 3.29
	99221.45 5911.32 28.44 3687.85 603 2097.70 3278.51 20903.05	613 613 30,43 60631 223 99,17 173,99 3,04 231,70 905,39	116847.30	8.50	02:38	1345.90 841.60 1225.10
	11129.13 157.4 156.460.61 159.5 251.49.29 8.275.38 117.78	7716.66 4.19 604.09 403.89 2.42 67.97 64.08 3.63 109.72 498.37	226066.20	5.50	16030	4390.20 3543.60 5349.70
	100.0 89.8 89.6 100.0 100.0 100.0 100.0 100.0 82.0	98.0 98.0 100.0 100.0 98.0 98.0 100.0	50 50 50 50 50 50 50 50 50 50 50 50 50 5	90.0	4.87	31.4 15.7 23.5
	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	2888888822	42	n	9	5 <b>8</b> 5
	\$ 8 8 8 2 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2 2 2 4 8 4 8 2 2 2	25	95	<b>\$</b> 6	2 2 2
	100.0 100.0 100.0 100.0 100.0 100.0 50.0	100.0 100.0 100.0 100.0 100.0 100.0 100.0	100.0	0.001	100.0	\$0.0 \$0.0
	~~~~~~~	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	0	04	2	
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	0000-0000	64	69	6	n n n
	1482912.55 14828.90 40.32 69708.49 6.23 27419.35 8660.00 5940.00 218.89	8294.93 4.61 817.97 483.87 2.53 67.97 96.32 3.80 111.75	403225.80	7.30	184.30	8365.00 5449.90 12420.80
	8352.53 31.69 63364.06 5.69 23067.17 7899.00 5730.00 218.89	7178.71 3.80 446.13 337.14 2.30 67.97 42.63 3.46 107.73	1 126742.70	4.20	139.40	8365.00 5449.90 12420.80
	00000000	000000000	-	-	69	
			POUNDS	240	3	333
	7000 707		COM			
NALS	CHEMICAL OXYGEN DEMAND AMMONIUM,TOTAL FILTREAC. NITRATES,TOTAL, FILTREAC. NITROGEN-TOTACHEL, UNF.TOT GLOCHH(CONCN), PHOSPHORUS, UNFILT.TOTAL RESIDUR, TOTAL RESIDUR, TOTALOSS ON IGHI.	ALUMINUM, UNFILLT TOTAL ARSENIC, UNFILLT TOTAL CHEOMILIM, UNFILLT TOTAL MERCURY, UNFILLT TOTAL NICKEL, UNFILLT TOTAL NICKEL, UNFILLT TOTAL SELENIM, UNFILLT OTAL SELENIM, UNFILLT OTAL SELENIM, UNFILLT OTAL ZINC, UNFILLT OTAL	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS PAMCRE M.CRESOL UBÍNI	98CDD OCTACHLORODHBENZODIOXIN PESTICIDES,HERBICIDES,PCBS	SPECBT PCB, TOTAL. VOLATILE ORGANIC COMPOUNDS	M., AND P.XYI ANES O-XYI ENE (CSH10) CHLOROPORM (CHCL3)
CONVENTIONALS	COD NINTER ANNUTER ANNUTER ANNUTER AND	ALUT ASUT CRUT CRUT CRUT CRUT HGUT NIUT NIUT NIUT SPRU	BASE NEUTRAL AND A PMMCRE M-CRESOL DIOXINS AND FURANS	P94CDD C	PIPCBT P	BZMPXY N BZOXYL C

PLANT NAME: London (Greenway)
PLANT TYPE: Secondary

SAMPLING TYPE : Treated Studge

GLOBAL & PREV. 55.9 52.9 20.6 67.7 73.5 52.9 0.00 0.00 0.00 0.00 0.00 0.00 0.00 997.1 997.1 997.1 997.1 99.3 99.3 8.8 23.5 GLOBAL SPREAD FACTOR 1.00 1.00 1.00 1.00 1.00 1.00 1.00 3.65 3.21 2.41 2.56 2.67 2.72 2.72 5.63 5.63 PLANT SPREAD FACTOR 1.93 7.10 2.06 2.06 3.96 6.71 1.82 1.87 0.00 1.09 1.13 1.64 1.01 1.03 GEO. GEO. MEAN 43.05 43.05 76638.67 80434.04 43379.33 333.06 732.24 3.24 6.41 72.95 196.62 240.93 988.90 10.47 5281.80 2108.80 2.10 6.80 6.80 4.70 14.10 11.10 14.80 SAMPLE FORM : Dry Weight 38684.62 7.32 19.69 270981.78 198040.40 164019.71 4329.00 GEO. MEAN 2.57 414.60 631.12 1.77 6.65 70.08 69.40 477.90 2.22 0.40 7.50 8.30 13.50 7.60 7.60 39.70 3.30 360000.00 GLOBAL S. FREQ. DET. 100.0 100.0 100.0 100.0 98.0 67.7 99.3 99.3 99.0 99.0 99.0 99.0 99.0 0.0 53.1 GLOBAL - 130 S In 0 % SAMPLES GLOBAL 48884844888488 2 2 6 4 6 2222222 PLANT S FREQ. DET. 0000 0.00 0 0 0 0 0 0 0 PET. - 11 11 11 11 11 11 SAMPLES 2 2 22 222222 MAX. DET. CONC. 30.00 2.80 2.80 481.55 650.90 2.24 17.34 82.35 99.30 99.30 99.30 98.20 508.95 2.05 8.00 47.50 3783160.00 200000.00 169411.00 360000.00 24987.30 4.30 13.90 13.90 2683.20 11.70 61.70 41000.00 UNITSQA/QC PLANT
(DRY CODE MIN. CONC. )
WEIGHT) > DL 23.92 3008.67 2.35 356.96 611.93 1.40 2.55 61.19 49.46 50.59 448.75 3.85 2.05 36500,00 6.70 8.16 19410.00 196100.00 360000.00 15500.00 13.90 13.90 2683.20 11.70 61.70 24.60 4.30 - ~ \*\*\*\* \$\$\$\$\$\$\$ 55 55 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS HEPTACHE, ORODIBENZODIOXIN OCTACHE, ORODIBENZODIOXIN CHEMICAL OXYGEN DEMAND NITROGEN-TOT-KHEL, UNP. TOT MOI. Y BIX:NUM, UNPILIT. TOTAL, PHOSPHORUS, UNPILIT TOTAL SB.VER,UNFB.T.FOTAL.
ALUMINUM,UNFB.T.FOTAL.
ARSENIC,UNFB.T.FOTAL.
CIRCOMIUM,UNFB.T.FOTAL. RESIDUE, TOT LOSS ON IGNI. STRONTIUM, UNFILT TOTAL ZINC,UNHIT TOTAL. CADMIUM,UNFILT TOTAL. SHIJ:NIUM,UNFILT.TOTAL. MERCURY, UNFILT TOTAL CONTAM: CONTAMINANT NAME INANT COPPER, UNFILLTOTAL NICKEL, UNPIL, T. TOTAL, ALPHA-CHLORDANE GAMMA-CHLORDANE ENDOSULFAN II LEAD UNFILL TOTAL PESTICIDES, HERBICIDES, PCRS (-LOCKHH(CONCN)) PHENOLICS (4AAP) RESIDIE, TOTAL. M-CRESOL. PHENOL. DIOXINS AND FURANS PCB, TOTAL CONVENTIONALS PMMCRE PMPIGEN NNTKUR PHINOL PHUT RST RSTADI METALS P97CDD PICHIG PIEND2 PIECRT PIPPDE P320 X2124 PICHA AGUT ALUT CRUT CRUT CRUT CRUT HGUT MOUT NRUT SRUT TINK.

2,4-DICHLOROPHENOXYACETIC ACID 1,2,4-TRICHLOROBENZENE

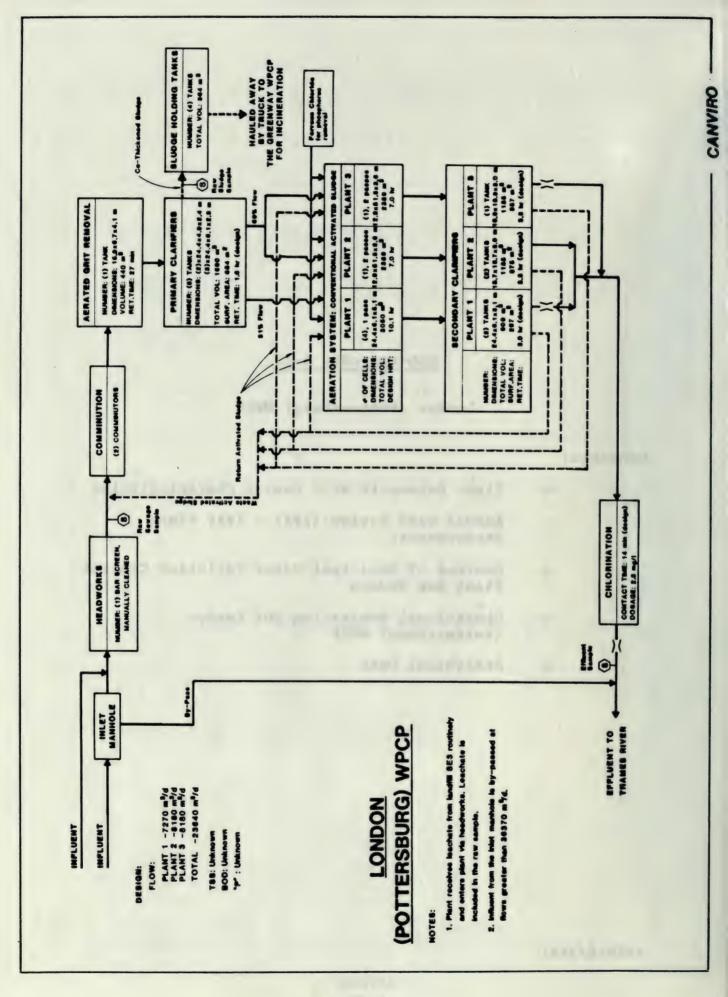
PP-DDE

## Sub-Appendix A-13

## London (Pottersburg) WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for London (Pottersburg) WPCP
- o Analytical Data



POTTERSBURG MPCP
Conventional Activated Sludge
Phosphorus Removal - Continuous
Capacity - 22.048 10(3) m3/day

PARAMETER	1981	1982	1983	1984	1985	HEAN ANNUAL AVERAGE
Avg. Daily Flow (1888 m3/day)	13.50	17.28	17.93	17.37	17.41	16.78
BOD5 - Influent (mg/L) BOD5 - Effluent (mg/L) Annual BOD5 Significantly	76.18 3.48	77.00	78.88	BB. BB 2. 92	94.92	79.68
Different from Mean Annual Average BOD5?	1.D.	i I.D.	I.D.	1.0.	1.D.	
TSS - Influent (mg/L) TSS - Effluent (mg/L) Annual TSS Significantly	124.58 5.48	116.30	184.88	184.25 4.17	182.88 3.92	118.21
Different from Mean Annual Average TSS?	1.9.	I.D.	1.0.	1.0.	I.D.	9 9 9
Total P - Influent (mg/L) Total P - Effluent (mg/L) Annual TP Significantly	5.1B B.73	4.48	11.58	4.43	4.83 B.63	6.87
Different from Mean Annual Average TP? TP in Compliance?	1.D.	i I.D.	I.D.	i I.D.	i I.D.	Y

I.D. - Insufficient Data

## SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

## GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE  DESIGN CAPACITY (1000 m3/d)	POTTERSBURG WPCP 120000836 CONVENTIONAL ACTIVATED SLUDGE PHOSPHORUS REMOVAL CONTINUOUS 22.048
1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	17.909 25979
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	9
COMMERCIAL SOURCES (%) (Population x 0.0757)	11
RESIDENTIAL SOURCES (%) (Population x 0.175)	25
UNACCOUNTED FOR, INCL. INFILTRATIO (100-% Contributed from industrial, commercial and residential sources)	N 55
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES	74
INDUSTRIES WITH WATER	45
NO OF SIC CATEGORIES	23
DESCRIPTION OF THE TOP 5 INDUSTRIE (BASED ON WATER USE DATA)	S DISCHARGED TO THE WPCP
DESCRIPTION	SIC # OF COMPANIES
TRANSPORTATION EQ'T	3711-3799 2
ELECTRICAL AND ELECTRONIC CMTS	3612-3690 2
ELECTROPLATING	3471-3471 1
WOOD AND METAL FURNITURE MFG	2510-2599 2 3500-3599 16
MACHINERY MFG	3500-3599 16

## OPERATIONAL EVALUATION FOR: LONDON POTTERSBURG NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: July 10, 1987
SAMPLING SEASON: Summer (Narm Weather)

DESIGN AVE FLOW: 23,640 m3/d

3 2 3 2 9 1				PRE-SAP	PLING PERI	OD		
::	PARAMETER	DAY 1	DAY 2	DAY 3 :	DAY 4 1	DAY 5 1	DAY 6 1	DAY 7
11=								
8 8	8	8		9 5	3	1	8	
2 1	RAW SEWAGE FLOW	17,684	14,729 :	14,729	13,957 :	14,411	12,456 ;	
9.5	8	1	1	1	1	1	8	1
3 0	I of Design Flow	74.812;	62.31%	62.311	59.0421	60.96%	52.69%	51.731
5 0 9 0	3	1	1	1		1	1	
1 1 -								
9 3	Influent BOD (eg/L)		134.0	104.0	i	i	1	113.0
3 1	Primary BOD (mg/L)		B9.0 1	83.0			i	137.0
3 3	Secondary BOD (mg/L)		4.0 1	5.0 :	i	i	i	3.0
3 3	I PRIMARY REMOVAL		33.621	20.21	i	:	i	-21.22
8 8	I SECONDARY REMOVAL		97.021	95.2%	1	i	i	97.32
3 1		159.0 :	177.0 :	100.0	112.0	i	i	164.0
5 1 1 1	11 1 2 2 1 1 2 1 1 2 1 1 2 1 1 1 1 1 1	47.0 :	46.0 :	51.0 :	44.0	;	i	121.0
2 6	decomber y ou tagit	4.0 1	3.0 1	2.0 1	2.0 :	i	i	2.0
9 8	% PRIMARY REMOVAL	70.421	74.02	49.0%	60.7%	i	i	26.21
11	% SECONDARY REMOVAL	97.52	98.31	98.01	98.21	i	i	98.81
11-								
8 8	Influent NH4 (mg/L)	i	i	i	i	i	i	
3 3	Primary MH4 (mg/L)	i	i	i	i	i	i	
3 1	Secondary NH4 (mg/L)		i	i	i		1	
8 2	2 PRIMARY REMOVAL		i	i	i	i	i	
8 8	I SECONDARY REMOVAL		i	i	i	i	i	·
11-	Influent TKN (ag/L)		,	· · · · · · · · · · · · · · · · · · ·	1		j.	
11	Primary TKN (mg/L)		1	1	1	1	1	1
11	Secondary TKN (mg/L)	, ,	1	1	1	8	2	
11	I PRIMARY REMOVAL	1 1	3	1	2	9	1	
11	Z SECONDARY REMOVAL	1 1	1	1	1	1	1	
11-	4 SECONDARI REMOVAL	!!	1		1			
31	Influent Total P (mg/L)	7,10	5.30	6,20	5.60 ;	1	1	7.20
11	Primary Total P (mg/L)	1 1	0.00 1	0.20	3.00 1	,		7.20
11	Secondary Total P (eg/L)	0.80	0.70 ;	0.80 ;	0.90 :	1	1	0.60
11	1 PRIMARY REMOVAL	1 0.00 1	1	4.00	1.70	1	3	0.00
11	I SECONDARY REMOVAL	88.7%	86.81	87.17:	83.921	1	3	91.7%

#### LONDON POTTERSBURG WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: July 10, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 23,640 m3/d

:				PRE-SA	MPLING PER	HOD		
2	PARAMETER	DAY B		DAY 10 :				1 DAY 14
== 			: :					
1	RAN SENAGE FLON	15,093	14,366	13,456	15,457	13,229		1
-	% of Design Flow	63.852	60.77%	56.92%	65.38%	55.961	- ñ = o	
!	Influent BOD (mg/L)			194.0 :	171.0			216.0
	Primary BOD (mg/L)			116.0				216.0
1	Secondary BOD (mg/L)		1	4.0 1				1.0
1	2 PRIMARY REMOVAL	1	1	40.2%	35.17			1 0.02
!	% SECONDARY REMOVAL		:	97.9%	98.2%			99.5%
;	Influent SS (ag/L)	156.0	i	156.0 :	131.0	******		103.0
	Primary SS (mg/L)	78.0 1	1	80.0 :	66.0			1 49.0
;	Secondary SS (mg/L)	3.0 :	;	3.0 ;	3.0			3.0
8	Z PRIMARY REMOVAL	50.0%	711	48.71				52.47
!	2 SECONDARY REMOVAL	98.121		98.12	97.7%		100	97.12
; !	Influent NH4 (mg/L)		;					
1	Primary NH4 (mg/L)		1	1				
1	Secondary NH4 (mg/L)	1	1	1				1
3 2	Z PRIMARY REMOVAL		1	1				1 1
1	Z SECONDARY REMOVAL	1			1			
;	Influent TKN (ag/L)							
1	Primary TKN (mg/L)		1	1			- 11	1
2	Secondary TKN (mg/L)	1	1	1	1			;
8	% PRIMARY REMOVAL	1	1	1	1			1
1	7 SECONDARY REMOVAL		1	1				1
	Influent Total P (mg/L)	6.80	i	7.60 :	7.80			6.40
1	Primary Total P (mg/L)	: :	1	:			1 100	1
ğ .	Secondary Total P (mg/L)	0.60	1	0.70 :	0.90			0.80
1	I PRIMARY REMOVAL	: ;	1	1	1			1
1	1 SECONDARY REMOVAL	91.2%	:	90.8%	88.5%			1 87.51

#### OPERATIONAL EVALUATION FOR: LONDON POTTERSBURG WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: July 10, 1987

SAMPLING SEASON: Summer (Warm Neather)
DESIGN AVG FLOW: 23,640 m3/d

			SAMP	LING PERIO	D	
PARAMETER	DAY 15	DAY 16 ;	DAY 17 :	DAY 18 :	DAY 19 :	
	! !	1	:	1	;	 1
RAW SEWAGE FLOW	14,411 ;	14,457	13,775 :	13,411	12,820 1	3
1 of Design Flow	60.96%	61.152	58.271	56.731	54.232	
Influent BOD (mg/L)		167.0 :	120.0			 -
Primary BOD (mg/L)	1	107.0 :	39.0 ;	1	;	1
Secondary BOD (mg/L)	j 3 1 1	4.0 :	4.0 1	:	1	1
% PRIMARY REMOVAL	1	35.9 :	67.5 :	1	3	1
1 SECONDARY REMOVAL	1	97.6 :	96.7 :	1	1	1
Influent SS (mg/L)	!	107.0	90.0	156.0		 :
Primary SS (mg/L)		69.0 :				1
Secondary SS (mg/L)	1	5.0 :			1	1
% PRIMARY REMOVAL	; ;	35.5 :	34.4 ;	62.2 :	1	1
I SECONDARY REMOVAL	1	95.3 :	95.6	95.5	1	1
Influent NH4 (mg/L)	 	;				 -;
Primary NH4 (mg/L)	1 1			;		1
Secondary NH4 (mg/L)	1 1	- 1	1	1	:	1
% PRIMARY REMOVAL	; ;	1	1	1	1	1
% SECONDARY REMOVAL	! !	:	:	:	1	1
Influent TKN (mg/L)						 
Primary TKN (mg/L)	; ;	1	1	1	;	1
Secondary TKN (eg/L)	: :	1	1	;	1	1
I PRIMARY REMOVAL	;	3 1	1	;	1	1
% SECONDARY REMOVAL	: :	1	:	1	:	:
Influent Total P (mg/L)	6.80	5.90	6.70	i		 
Primary Total P (mg/L)	; ;		1	1	:	;
Secondary Total P (mg/L)	0.90 :	1.30 ;	1.30 :		1	1
I PRIMARY REMOVAL	;	1	1	1	1	3
% SECONDARY REMOVAL	86.8	78.0 ;	80.6			

## LONDON POTTERSBURG WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: February 20,1987 SAMPLING SEASON: Winter (Cold Neather)

DESIGN AVE FLOW: 23,640 m3/d

				PRE-SAM	PLING PERI	OD		
	PARAMETER :	DAY 1 1	DAY 2	DAY 3 1	DAY 4 :	DAY 5 :		DAY 7
==								
i i i	RAW SEWAGE FLOW	15,466	15,638	14,548	15,048	15,957	14,820	15,366
	% of Design Flow	65.42%	66.15%	61.542	63.65%	67.502	62.691	65.00
-	Influent BOD (mg/L)		114.0	38.0	117.0			
	Primary BDD (mg/L) :	1	79.0 :	70.0 :	101.0 :	1	1	
	Secondary BDD (mg/L) :	1	3.0 !	3.0 :	3.0 1		10 - 1	
	% PRIMARY REMOVAL	1	30.7 :	-84.2 1	13.7 1	1	;	
	Z SECONDARY REMOVAL :		97.4	92.1	97.4			
	Influent SS (mg/L)	128.0	133.0	102.0	106.0			101.0
	Primary SS (mg/L)	64.0 :	51.0 ;	54.0 1	59.0 1	1	1	41.0
	Secondary SS (eg/L) :	8.0 :	8.0 1	5.0 1	6.0 :	1	1	4.0
	Z PRIMARY REMOVAL :	50.0 !	61.7 :	47.1 1	44.3 1	1	1	59.4
	% SECONDARY REHOVAL :	93.8 !	94.0	95.1	94.3			96.0
	Influent NH4 (mg/L)	;						
	Primary NH4 (mg/L) :	1	1	:	1	1	1	
	Secondary NH4 (ag/L)	1	1	1	:	1	1	
	Z PRIMARY REMOVAL :	1	;	1	1 1	1	1	
	% SECONDARY REMOVAL :	1	1	1	1	1	1	
	Influent TKN (mg/L) :	1	1	1	1	1	1	
	Primary TKN (mg/L)	1	1	1	1	;	:	
	Secondary TKN (mg/L) :	1	1	1	1	1	1	
	% PRIMARY REMOVAL	1	1	1	i	1	1	
	Z SECONDARY REMOVAL :	- 1	- 1			1	1	
	7-(3 X-1-) B (	7.0		4.5	4.0			
	Influent Total P (mg/L) :	3.8	4.8	4.5	4.2			5.0
	Primary Total P (mg/L) :							
	Secondary Total P (mg/L) :	0.6	0.9 :	0.6	0.4			0.6
	Z PRIMARY REMOVAL :					1	1	
	% SECONDARY REMOVAL	84.2 !	81.3 :	86.7	90.5	;		88.0

# LONDON POTTERSBURG WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: February 20,1987
SAMPLING SEASON: Winter (Cold Weather)
DESIGN AVG FLOW: 23,640 m3/d

			PRE-SA	MPLING PER	IOD		
PARAMETER	DAY 8						DAY 14
		1	1	1	9	:	
RAW SEWASE FLOW	15,729	15,639	15,911 :	16,230 :	15,457	14,320	14,184
1 of Design Flow	66.54%	66.152		6B.65%			60.002
Influent BOD (mg/L)		86.0		116.0 :			
Primary BDD (mg/L)		74.0 :	80.0 :	100.0 :	1	:	
Secondary BOD (mg/L)		3.0 1					
7 PRIMARY REMOVAL		14.0 :	15.8 :	13.8 :	1	;	
% SECONDARY REMOVAL		96.5				1	
Influent SS (mg/L)	64.0	105.0	,	130.0			106.0
Primary SS (mg/L)	42.0	53.0 :			1	1	43.0
Secondary SS (mg/L)	3.0	5.0 1				3	8.0
7 PRIMARY REMOVAL	34.4					;	59.4
% SECONDARY REMOVAL	95.3	95.2 :	93.6	94.6	:	1	92.5
Influent NH4 (mg/L)			;				
Primary NH4 (mg/L)		-1	1	1	:	;	
Secondary NH4 (mg/L)		1	1	1	3	1	
Z PRIMARY REMOVAL	:	!	1	8 2	1	1	
% SECONDARY REMOVAL		1	1	1	;	;	
Influent TKN (ag/L)		1	i	;	1	i	
Primary TKN (mg/L)		1	1	;	*	;	
Secondary TKN (mg/L)		į	3		1	1	
I PRIMARY REMOVAL			8	1	1		
1 SECONDARY REMOVAL			!		!	!	
Influent Total P (mg/L)	4.3	5.5	3.8	4.7			4.3
Primary Total P (mg/L)		3	3	3	1	1	
Secondary Total P (mg/L)	0.5	0.8 :	0.8	0.4 :	1	1	0.5
% PRIMARY REMOVAL	1	1	1 2	\$ 0	. 1	1	
I SECONDARY REMOVAL	88.4	85.5	78.9 :	91.5	1	1	88.4

## LONDON POTTERSBURG WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: February 20,1987

SAMPLING SEASON: Winter (Cold Weather)
DESIGN AVG FLOW: 23,640 m3/d

			SAMPL	LING PERIO	D		
PARAMETER	DAY 15		DAY 17 :	DAY 18 ;		DAY 20 1	
RAW SEWAGE FLOW	14,638	14,821	14,275	13,547	14,366	13,502	13,547
% of Design Flow	61.92%	62.691	60.382	57.312	60.771	57.1221	57.31%
Influent BOD (mg/L)	- 	86.0	131.0 (	110.0	 		
Primary BOD (mg/L)	1	81.0 :	113.0 :	111.0 1	1	1	
Secondary BOD (mg/L)	1	3.0 1	3.0 1	3.0 :	1	1	
% PRIMARY REMOVAL	: :	5.8 1	13.7 1	-0.9 1	;	1	
Z SECONDARY REMOVAL	1	96.5 1	97.7	97.3 !		!	
Influent SS (mg/L)	110.0	111.0	126.0	108.0			186.0
Primary SS (mg/L)	57.0 1	52.0 :	52.0 1	54.0 1	1	1	36.0
Secondary SS (mg/L)	7.0 1	7.0 :	6.0 1	9.0 1	1	1	9.0
Z PRIMARY REMOVAL	48.2 1	53.2 1	58.7 1	50.0 1	1	1	80.6
Z SECONDARY REMOVAL	93.6 !	93.7 1	95.2	91.7			95.2
Influent NH4 (mg/L)	1 1	1					
Primary NH4 (mg/L)	1	:	1	;			
Secondary NH4 (mg/L)	1	:	1		1		
% PRIMARY REMOVAL	1	1	1	;			
1 SECONDARY REMOVAL	!!						
Influent TKN (mg/L)	i	i				i	
Primary TKN (mg/L)	1 1		1	1			
Secondary TKN (mg/L)	1 1	1	1	:	;		
I PRIMARY REMOVAL	1	1	1	;		1	
% SECONDARY REMOVAL	!!						
Influent Total P (mg/L)	i		1			W- 1	
Primary Total P (mg/L)	1	1	1	-	ł	1	
Secondary Total P (mg/L)	1 1	1	i	1	1		
7 PRIMARY REMOVAL	1	;	1	1	1	;	
% SECONDARY REMOVAL	1 1	1	1	;	:	1	

PLANT NAME : London (Pottersburg)
PLANT TYPE : Secondary

wage	eight
Raw Se	Wet W
0.0	
TYPE	PORM
AMPLING	542
MP	MPL
18	S

GLOBAL & PREV.

GLOBAL SPREAD FACTOR

PLANT SPREAD FACTOR

GEO. GEO. MEAN

PLANT GEO. MEAN

GLOBAL % FREQ. DET.

GLOBAL

PLANT S FREQ. DET.

UNITS QC PLANT PLANT FLANT
CODEMIN. CONC. MAX. DET. #
> MDL. CONC. SAMPLES

CONTAM- CONTAMINANT NAME INANT

METALS  ALUT  CUUT  HGUT  SRUT  SRUT  SRUT  AGUT		15151 1515 331515	000000000000000000000000000000000000000	132.00 194.00 20.00 17.70 25.50 6.63 6.63 89.20 70.00 70.00 20.00 80.00 20.00 20.00 20.00	2388.00 67.30 67.30 87.30 38.30 7.34 6.13 266.00 1220.00 100.00 0.23 310.00 240.00 30.00	***************************************	**************************************	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 17.0	267 273 273 273 273 273 273 278 267 90 275 49 319 319 321	266 258 273 273 273 273 274 274 89 89 28 306 48 318 318 318	99.6 100.0 1	189.50 395.52 35.15 22.30 31.29 6.91 17.81 17.81 17.81 17.81 20.00 80.00 80.00 130.00 130.00 130.00	140.23 2239 1533 1533 2544 690 518 126.88 126.88 100.94 0.05 0.23 370.70 211.00 10.40	1.52 1.53 1.20 1.20 1.20 1.30 1.37 1.37 1.37 1.37 1.34 1.48	268 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
CRUT CDUT COUT PBUT MOUT	CREAT CHROMEM UNFELTIOTAL WAY COULT CORMALIUMFELTIOTAL WAY COULT CORALIUMFELTIOTAL WAY MOUT MOLYBDENUM,UNFELTIOTAL WAY MOUT MOLYBDENUM,UNFELTIOTAL WAY MAKE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	33333 ag	0000	8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8 8 8 9 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	2222	m 19 19 19 m	8.3 8.3	322 322 322 322	237 82 83 83 84 84 84 84 84 84 84 84 84 84 84 84 84	23.5 23.5 27.5 28.5 28.5 28.5 28.5 28.5 28.5 28.5 28	10.00 10.00 10.00 10.00	51.10 6.50 9.30 59.30 12.40	2.39 1.58 1.48 1.22	45 22 25 7.1	70-07
PMMCRE PMPAGN PMBBP PMBBP DIOXINS	PMMCRE M-CRESOL PMRTEN PHENOL PNINAPH NAPITHALENE PMBBP BUTYLBENZYLPHTIALATE DIOXINS AND PURANS	3333	en (4) en en	25.60 17.90 11.40 44.50	353.30 62.40 46.90 44.50	2 2 2 2	* * * * -	30.0 30.0 10.0	275 275 275 275	167	60.7 42.9 5.8 12.4	30.57 112.44 8.13 6.22	25.59 14.52 5.37 5.85	5.24 2.41 2.35 2.00	348 246 1.47	
PREDIT	PSECDF OCTACHLORODIBENZOPURAN PESTICIDES, HERBICIDES, PCBS	\$	-	300	3.00	14	-	900	*	-	97	82.1	0.79	2.17	787	
PSWD PIERCE PIDMOT PIOCHL PIPPOE	24-DIGHLOROPHENOXYAGITIC ACED GAMMA-BHCHEXCHLORCYCLJEXANE) PCB, TOTAL BETTA-BHCHEXCHLORCYCLJEXANE) METHOXYCHLORDANE PP-DDG PP-DDG PP-DDG PP-DDG	33333333	P 10 10 10 10 10 10 10 10 10 10 10 10 10	0000	0.00	2222222	0 <b>8</b> 7	100.0 20.0 20.0 10.0 10.0 10.0 10.0	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	121 142 142 142 143 144 145 145 145 145 145 145 145 145 145	2 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	0.16 0.03 0.03 0.03 0.03 0.03 0.03	0.00 0.00 0.00 0.00 0.00 0.00 0.00	25 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	24232422	

	PLANT N	PLANT NAME: London (Pottersburg)	ondon (Pot econdary	(tersburg)					SAMPLI	SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight	: Raw Se	wage				
CONTAM.	CONTAMINANT NAME	UNITS Q	UNITS QC PLANT CODE MIN.: ONC. M.	F PLANT NC. MAX. DET. L CONC.	PLANT * SAMPLES	PLANT # DET.	FLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLORAL & PREV.	1
DE	PESTICIDES, HERBICIDES, PCBS				7117		eir	WAY.	arin 1	JU.S	1115	nii.			au.	
X1HCCP X2124	HEXACHLOROCYCLOPENTADIENE 1,24-TRICHLOROBENZENE	77	3 0.00	030	01 01		10.0	276	35	1.8	0.01	0110	1.85	130	13.5	
100	VOLATILES ORGANIC COMPOUNDS															
BZEBNZ BZMPXY BZOXYL	ETHYLBENZENE M., AND P.XYLENES O-XYLENE	773	1 58.00 1 190.00 1 42.00	58.00 0 190.00 0 42.00	0 0 0		10.0	274	8 2 2	11.0 15.7 9.1	22.22	25.00	1.40 2.04 1.26	1.75 2.02 1.56	13 12 12 12 12 12 12 12 12 12 12 12 12 12	

84

		LANT	TYP	PLANT NAME: London (P	PLANT NAME: London (Potterrburg) PLANT TYPE : Secondary	(Manuel)					VS.	SAMPLING TYP SAMPLE FORM	542	: Final Effluer	¥ _			
CONTAM-	CONTAMINANT NAME	CODI	0.0	QC STD. FOR CODE SURFACE WATER	STD. FOR STD. REF.	PLANT PLANT MIN. CONC. MAX. DET. > DL. CONC.	PLANT MAX. DET. CONC.	PLANT	PLANT PET.	PLANT * FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET.	GLORAL S. FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD PACTOR	GLOBAL SPREAD FACTOR	GLORAL * PREV.
CONVENTIONALS	ONALS																	
RODS	BOD, S DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND PRECAL VED CODA MIC CARBON	35				28.00	34.00			100.0	213	220	99.1	20.94	21.22 52.80 8.09	1.48	1.83	1000
NNOZPR	NITRITE, FUT. REACT. NITRATES, TOTAL PILT. REAC.	E E	000			0.23	0.46	on sec (	. en en (	100.0	220	186	83.0	13.36	2.33	1.28	5.95	88
PH	NITROGEN-TOT-KJEL,UNP.TOT	meA				96.99	7.08	m 00 0	e ec o	100.0	224	777	1000	6.83	7.10	1.03	501	0001
RSP	RESIDUE, PARTICULATE AMMONIUM, TOTAL FILT REAC.					5.10 0.35	11.50	. e. se	o so	100.0	223	219	99.6	7.30	3.90	1.30	200	1000
RSPLOI	RESIDUE, PARLOSS ON IGNI. PHENOLICS (4AAP)	Z Z	00	0.00	ONT-MOE	5.60 0.26	5.90 0.26	10	- 1	10.0	222	3 2	14.7	9777	0.07	1.71	1.86	33.6
METALS																		
SRUT	COPPER, UNPIL, TTOTAL, STRONTIUM, UNPIL, TOTAL, ZINC, UNPIL, TOTAL	333		\$.00 \$750.00 30.00	ONT-MOE ONT-MOE ONT-MOE	180.00	30.00	E 2 2	12.23	100.0	267	30 262	63.8 1000.0 98.1	220.00	340.90	1.21	214	100.0
MOUT	MERCURY, UNFILT. TOTAL. MOLYBICHUM, UNFILT. TOTAL.	33	000	3 8	ONT-MOB	10.00	20.00	222	96 F F	80.0 58.3	263	220	Z 7. 3	10.00	6.60		1.56	67.9
ALUT COUNT	ALUMINUM, UNFILT, TOTAL, CADMIUM, UNFILT, TOTAL,	333		0.20	ONT-MOB ONT-MOB	0.00	140.00	1221	· w ca i	41.7	264	196	242	0000	210	•	2.07	8. F.
PRUT	CHROMIUM, UNPILT, TOTAL LRAD, UNPILT, TOTAL COBALT, UNPILT, TOTAL	355	000	25.00	ONT-MOB ONT-MOB NYS-STD	30.00	30.00	222	~ ~ ~	16.7	267	5 2 2	94	20.00	16.50		1.48	82.1
DIOXINSA	DIOXINS AND FURANS																	
P98CDP	OCTACH_ORODIBENZOPURAN	P. C.	-	150.00	ONT-MOB	0.50	0.50	4	-	90.0	1	*	4.6	0.25	0.28	2.67	250	7.1
PESTICIDI	PESTICIDES, HERBICIDES, PCBS																	
P32AD P18HCG P32AST P3SILV X212A	24-DICH COROPHENOXYACITIC ACID GAMMA-BHC(HEXCHLORCYCLHEXANE) 24.5-TRICLORPHENOXYACITIC ACID SELYEX 1.24-TRICH OROBENZENE	33333	<b>60000</b>	4.00 0.06 0.06	ONT-MOB	0.00 0.01 0.12	0.33 0.07 0.12 0.03	2222	æ vo	80.0 60.0 10.0 10.0		FFSSS	78.0 98.2 11.0 10.1 15.9	0.00 0.00 0.00 0.00	800 600 600 600 600	321 262 138 138 154	£ 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	100.0 86.4 30.0 32.1

GLOBAL % PREV. 100.0 100.0 100.0 100.0 100.0 14.7 58.8 GLOBAL SPREAD FACTOR 18581828 3.75 2261 2251 2251 2268 2268 227 227 2236 2236 2236 2236 2236 2236 PLANT SPREAD FACTOR 24.11 GEOBAL GEO. MEAN 591221.45 5911.32 25.44 36897.85 6.03 82.34 20347.70 32783.51 20803.05 3823.30 SAMPLING TYPE : Raw Sludge SAMPLE FORM : Dry Weight GEO. MEAN 1451920.77 13008.90 41.07 56362.67 5.68 65.29 44356.90 5246.20 31918.60 29220.88 19864.04 9.30 2.98 164.16 189.38 462.19 5.26 49.49 138.77 3.41 173.04 437.99 0.09 GLOBAL % FREQ. DET. 89.6 89.6 82.0 100.0 100.0 88.9 98.0 98.0 98.0 98.0 98.0 62.2 98.0 98.0 98.0 98.0 90.0 82.3 GLOBAL -323683683683683 GLOBAL SAMPLES \$22544248652254 PLANT % FREQ. DET. 100.0 50.0 DET. 222222222 SAMPLES PLANT UNITSQA/QC PLANT PLANT (DRY CODE MIN. CONG. MAX. DET. WEIGHT) > DL CONG. 3.74 1838.01 218.05 473.52 1.50 5.26 63.91 189.72 4.14 2115.26 451.13 18006.23 74.77 58.270.68 5.68 97.74 33333.33 32100.00 21.800.00 421052.60 1503759.40 PLANT NAME: London (Pottersburg) 421052.60 5.61 2.37 14.66 164.49 651.13 0.93 5.26 38.32 101.50 2.80 139.10 4.25.23 0.26 401869.16 9398.50 22.56 22.56 54517.13 5.68 43.61 30563.91 26600.00 18100.00 PLANT TYPE : Secondary \*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\*\* \* K. CHEMICAL OXYGEN DEMAND AMMONIUM, TOTAL FILT REAC. MOLYBDENUM, UNFILT. TOTAL. NITRATES, TOTAL, FILT, REAC. NITROGEN-TOT-KJEL, UNF. TOT PHENOLICS (4AAP)
PHOSPHORUS, UNPILT. TOTAL CYANIDE-FREE, UNPIL TREAC. COBALTUNFILTIOTAL
CHROMIUM, UNFILTIOTAL
COPPER, UNFILTIOTAL
MERCURY, UNFILTIOTAL RESIDUE, TOT. LOSS ON IGNI. STRONTIUM, UNFILT. TOTAL ALUMINUM, UNFILT. TOTAL CADMIUM,UNFILT.TOTAL SELENIUM, UNPILIT. TOTAL CONTAM. CONTAMINANT NAME ARSENIC, UNFILT. TOTAL. NICKEL, UNFILT TOTAL SILVER, UNFILT. TOTAL. LEAD, UNFILT TOTAL ZINC, UNFILT. TOTAL. (1.0G(H+(CONCN)) RESIDUE, TOTAL M-CRESOL. NAPITHALENE CONVENTIONALS NNNITHR NNOTHR NNTKUR PH PH PPUT RST RST METALS

LNANI

67.7 79.8 35.9 35.9 17.7 17.7 17.7

22.23

25 8 9 8 9 E

8.90 5.90 5.10 5.10 5.60 5.60 5.50

25.70 26.60 26.60 8.40 9.60 12.90

26 12 12 1 2 1

22222222

3.6

221

240

8.70 7.70

0.0

2 4

2 2

	PLA	PLANT NAME:		London (Potter Secondary	rsburg)					SAMPL	SAMPLING TYPE : Raw SAMPLE FORM : Dry	: Raw Si	Sludge			
CONTAM.	CONTAMINANT NAME		UNITEQA/Q (DRY CODE WEIGHT)	UNITYGA/QC. PLANT (DRY CODE MIN. CONC. RIGHT) > DL.	MAX. DET. CONC.	PLANT # SAMPLES	PLANT PET.	PLANT F FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # BET	GLOBAL S. FREG. DET.	GEO. MEAN	GLOBAL GEO. MEAN	FLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL S. PREV.
P18HCB P1GHLG P1DHEL. P1DHEL. P1HNDH	BETA-BEC GEXCHLORCYCLHEXANE) GAMMA-CHLORDANE GDELDHEN METHOXYCHLOR ENDERN 24-5-THUCLORPHENOXYACETIC ACED 24-DICTLOROPHENOXYACETIC ACED 51-VEX HEXACHLOROPHENOXYACETIC ACED 51-VEX 1-24-TRICHLOROPHENOXYACETIC ACED 51-XEX 1-24-TRICHLOROPHENOXYACETIC ACED 51-XEX 1-24-TRICHLOROPHENOXYACETIC	GXANE) C ACID YC ACID HENR	*********	87.20 28.00 18.70 19.60 37.40 30.10 1587.60 202.50 90.30 93.50	87.20 28.00 18.70 124.60 37.40 37.40 37.40 37.40 37.40 158.90 158.90 158.90 158.90 198.30 90.30			8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	*****	8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	38.3 39.2 39.2 39.2 39.3 39.3 39.3 39.3 39	18.20 10.30 8.40 48.40 11.90 11.90 19.40 19.40 108.10 18.80	7.40 6.00 7.20 7.20 7.20 4.20 16.40 18.90 47.50 47.50 15.00 93.20 93.20 93.20	9.17 4.11 3.09 3.80 3.80 5.04 1.86 4.52 43.52 43.52 43.52 1.86 9.63	3.28 2.14 3.10 5.13 5.13 2.27 2.49 5.50 5.50 5.60 5.60 5.60 5.60 5.60 5.60	38.2 50.0 50.0 20.0 20.0 20.0 64.1 17.7 47.1 56.9 56.9
POLATIL.	VOLATILE ORGANIC, COMPOUNDS  REMPXY M., AND P.XYLENES		ue/ke 1	1931.50	1931.50	2	-	90.0	18	9	31.4	1205.10	1345.90	1.95	3.86	41.2

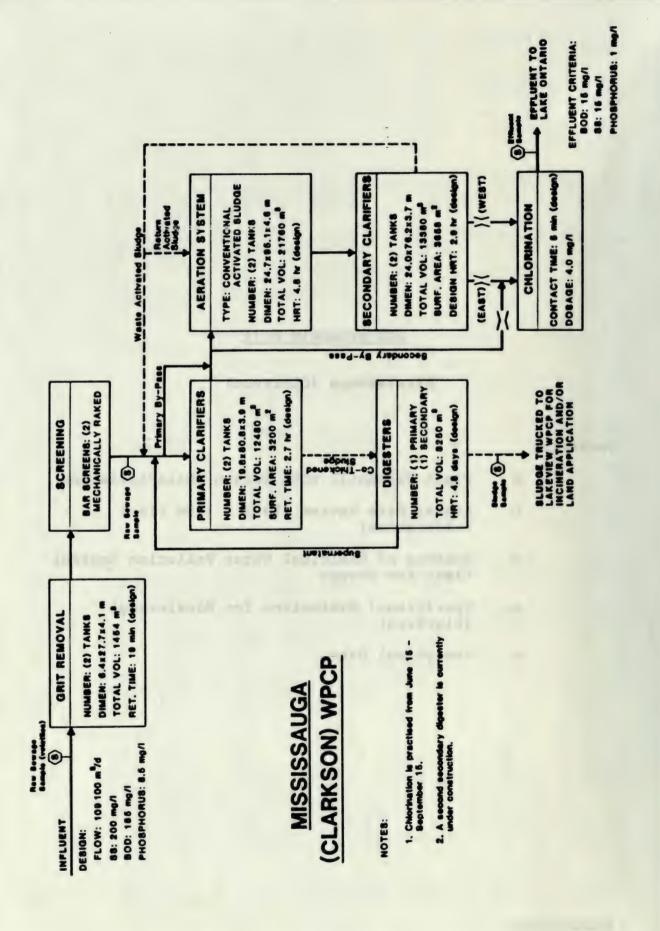
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## Sub-Appendix A-14

## Mississauga (Clarkson)

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Mississauga (Clarkson)
- o Analytical Data



CLARKSON WPCP SOUTH-PEEL SYSTEM Conventional Activated Sludge Phosphorus Removal - Continuous Capacity - 189.184 18(3)\*3/day

PARAMETER	1981	1982	1983	1984	1985	5 YEAR AVERAGE 81-85
Avg. Daily Flow (1888 m3/day)	48.89	59.22	67.85	75.29	71.28	64.17
BOD5 - Influent (mg/L) BOD5 - Effluent (mg/L) Annual BOD5 Significantly	326.68 5.98	288.66	187.88 9.88	1 169.42 3 8.17	161.58	225.87 8.46
Different from Mean Annual Average BOD5?	γ	N	N	N	Y	9 9 9 8
TSS - Influent (ag/L)	376.66	373.78	218.83	194.25	182.42	269.17
TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean	10.75	8.71	8.67	8.17	9.50	9.16
Annual Average TSS?	У	N	N	N	N	
Total P - Influent (eg/L)	7.50	9.96	9.85	7.91	8.83	8.65
Total P - Effluent (mg/L) Annual TP Significantly Different from Mean	8.81	1.82	1.08	8.89	8.92	8.94
Annual Average TP? TP in Compliance?	N Y	N	; Y	N Y	: ¥	Y

I.D. - Insufficient Data

#### SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP CLARKSON
WORKS NUMBER 110001328
TREATMENT TYPE PRIMARY
PHOSPHORUS

PHOSPHORUS REMOVAL CONTINUOUS
DESIGN CAPACITY (1000 m3/d) 109.104

1986 AVERAGE DAY FLOW (1000 m3/d) 75.548
POPULATION SERVED 120000

% OF TOTAL FLOW ATTRIBUTED TO:

INDUSTRIAL SOURCES (%) 25

COMMERCIAL SOURCES (%)
(Population x 0.0757)
12

RESIDENTIAL SOURCES (%)
(Population x 0.175)
28

UNACCOUNTED FOR, INCL. INFILTRATION 35 (100-% Contributed from industrial, commercial and residential sources)

PROFILE OF INDUSTRIES IN CATCHMENT
TOTAL NO OF INDUSTRIES NOT AVAILABLE
INDUSTRIES WITH WATER
NO OF SIC CATEGORIES

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION SIC # OF COMPANIES

## OPERATIONAL EVALUATION FOR: MISSISSAUGA (CLARKSON) NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: March 6, 1987 SAMPLING SEASON: Winter (Cold Meather)

DESIGN AVE FLOW: 109,100 m3/d

2 1 2 2 2				PRE-SAM	MPLING PER	TOD		1
11	PARAMETER :	DAY 1 :	DAY 2 1	DAY 3 1	DAY 4 :	DAY 5 1	DAY 6 :	DAY 7
		*********						
11	9	1	i	1	1	1	1	:
3 8	RAN SEWAGE FLOW	59,400 ;	61,810 :	62,210 1			69,260 :	-
1 1	1	1	i	1	;	•	1	•
* *	I of Design Flow	54.452	56.65%	57.02%	56.681;	57.43%	63.481	
11		1		1			1	
11-			450.0					
11	Influent BOD (mg/L)	1				i	i	
11	Primary BOD (mg/L)		122.0	-	150.0 :	i	i	
8 8	Secondary BOD (mg/L)				14.0 ;	i		1
3 8	Z PRIMARY REMOVAL	1		1		i	i	
3 8	1 SECONDARY REMOVAL		90.7 !		90.3 :	i		
11-	Influent SS (mg/L)		140.0			;	,	
3 5	Primary SS (mg/L)		94.0				1	
11	Secondary SS (mg/L)		10.0 :	-			1	
**	1 PRIMARY REMOVAL	0.0 1	32.9 1	0.0			1	
2 2	1 SECONDARY REMOVAL	1	92.9			8	1	
11-	4 SECONDARY RENOVAL		74.7 1		73.0 1			
11	Influent NH4 (ag/L)	!		1	!		1	
11	•	25.0						
11	Secondary NH4 (mg/L)	3.0 :			i			
11	2 PRIMARY REMOVAL	3.01						
* * *	Z SECONDARY REMOVAL							
11-	a decompant neriotal	!	!	!.	!	!		
11	Influent TKN (mg/L)	1				1	1	
**	Primary TKN (mg/L)							
11	Secondary TKN (mg/L)					,		
11	2 PRIMARY REMOVAL							
37	I SECONDARY REMOVAL		1				3	
11-				!				
11	Influent Total P (mg/L)		8.00		7.20			
11	Primary Total P (mg/L)			1	5.20			
11	Secondary Total P (mg/L)			0.60			1	
11	2 PRIMARY REMOVAL	!	23.8 :	!	27.8 :			
11	Z SECONDARY REMOVAL				91.7	,	1	

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## OPERATIONAL EVALUATION FOR: MISSISSAUSA (CLARKSON) NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING:

March 6, 1987

SAMPLING SEASON:

Winter (Cold Weather)

DESIGN AVE FLOW:

109,100 m3/d

11	1/3/2/12/11	J. Vreje		PRE-SA	MPLING PER	1100	
11	PARAMETER :						DAY 13   DAY 14
11	RAW SEWAGE FLOW	63,580	:	63,000 ;	;	663,140	ı i
	% of Design Flow	58.287	57.331	57.751	57.462		
11-	Influent BOD (mg/L)		156.0				
11	Primary 800 (mg/L)	1	102.0 1		114.0 ;		
!!	Secondary BDD (mg/L)	8.0 :	20.0 :	5.0 :	14.0	15.0	
11	% PRIMARY REMOVAL : SECONDARY REMOVAL :		34.6	1			1
11-	A DECUMPANT MEMUVAL i	i	87.2		i		
11	Influent SS (mg/L)		130.0				
11	Primary SS (mg/L)		95.0 :		63.0 :		
::	Secondary SS (mg/L)	8.0 1	10.0 :	6.0 1	6.0 :	10.0	
11	I PRIMARY REHOVAL :	1	26.9 1	1	1	1	
::	2 SECONDARY REMOVAL		92.3				
11	Influent NH4 (ag/L)		i	1	;	; 	
11	Primary NH4 (mg/L)	2.1 1	1	- 1	1	;	1
11	Secondary NH4 (mg/L)	2.0 1	1	;	1	- 1	
!!	I PRIMARY REMOVAL		1	1		!	1 11
11	I SECONDARY REMOVAL						
11	Influent TKN (mg/L)	1		1		1	
11	Primary TKN (mg/L)	1	1	1	1	1	
11	Secondary TKN (mg/L)	1	1	1	:		1
!!	Z PRIMARY REMOVAL			1	1		1
11	% SECONDARY REMOVAL						
11	Influent Total P (mg/L) :		6.80	!	5.60		
11	Primary Total P (mg/L)				4.30 1		
11	Secondary Total P (mg/L) !	0.60 :	0.60 1	0.70 ;	0.60 :	0.70 :	
11	I PRIMARY REMOVAL		29.4	1	23.2 1	1	11
11	I SECONDARY REMOVAL	1	91.2 1	!	89.3 ;	!	1

## MISSISSAUGA (CLARKSON) NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: March 6, 1987

SAMPLING SEASON: Winter (Cold Weather)
DESIGN AVG FLOW: 109,100 m3/d

		SAMPLING PERIOD							
8	PARAMETER	DAY 15	DAY 16 ;	DAY 17 :	DAY 18 :	DAY 19	DAY 20	: DAY 21	
1=									
3		: :	:	:	:	1		1	
1 2	RAW SEWAGE FLOW	85,160	72,190 :	69,330 :	69,160 ;	72,900		1	
		1	1	1	:	1		1	
2 2	I of Design Flow	78.06%	66.17%	63.55%	63.3921	66.821		1	
3		1	1	1	1			1	
-								-	
	Influent BOD (mg/L)							1	
1	Primary BOD (mg/L)		7210 1		0			1	
8	Secondary BOD (mg/L)	9.0 :			12.0 :			1	
	1 PRIMARY REMOVAL				0.0 :	-		;	
8	2 SECONDARY REMOVAL			3				1	
-					•				
1	Influent SS (mg/L)		175.0 :	3	125.0 1			1	
8			87.0 :		88.0			1	
1	orremon, to tage to	4.0 1			4.0 1			1	
2	I PRIMARY REMOVAL	1		1				1	
1	% SECONDARY REMOVAL		96.6 1		96.8 :	1		1	
-	* **							-	
8	Influent NH4 (mg/L)		1	1	1				
	Primary NH4 (mg/L)		1	1	1				
8	Secondary NH4 (mg/L)		1		3			i	
8	7 PRIMARY REMOVAL		1		1				
8	% SECONDARY REMOVAL		1	1	1	1		;	
-	In (I) work TVN (							-	
	Influent TKN (ag/L)		1	1	1			i	
8	Primary TKN (mg/L)				1			i	
	Secondary TKN (mg/L)	i i			i			i	
8	7 PRIMARY REMOVAL				i			i	
1-	I SECONDARY REMOVAL	1	i		i	i		i	
-	Influent Total P (mg/L)	,;	4 00 1		4 00	;		,	
		: :	6.80 f	-	4.80 :			1	
	Secondary Total P (mg/L)				0.60 :			8	
1 4	I PRIMARY REMOVAL	1 0.00 1	23.5 1		8.3 1			1	
	1 SECONDARY REMOVAL	1 1	86.8 1	1	87.5 :			1	

#### OPERATIONAL EVALUATION FOR: MISSISSAUGA (CLARKSON) NPCP

TREATMENT FACILITY: Secondary PERIOD ENDING: June 26, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 109,100 m3/d

PRE-SAMPLING PERIOD								
		DAY 1		DAY 3 !	DAY 4		DAY 6 1	
==								
	RAW SEWAGE FLOW	76,200	73,270	74,820	75,650	78,710	76,220	75,710
	I of Design Flow	69.84%	67.162	68.58%	69.3421	72.142	69.861	69.40
	Influent BDD (mg/L)			i	99.0 1			
	Primary BOD (mg/L)	1	1		81.0 1	90.0 :	1	
	Secondary BOD (ag/L)	8.0 1	11.0 !			11.0 !		
	7 PRIMARY REMOVAL			i	18.2 1			
	* SECURDANT KENUYHL			·	74.7 (			
	Influent SS (mg/L)		1	i	122.0		1	
	Primary SS (mg/L)	1	1	146.0 :	75.0 :	80.0 :	1	
	Secondary SS (mg/L)	7.0 1	8.0 1	11.0	9.0 ;	11.0 :	1	
	Z PRIMARY REMOVAL				38.5	!		
	I SECONDARY REMOVAL	i 	· · · · · · · · · · · · · · · · · · ·	i !.	92.6 1	i 	i	
	Influent NH4 (ag/L)							
	Primary NH4 (mg/L)	21.0 1	1	1	1	i		
	Secondary NH4 (mg/L)	6.0 1	1	1	1	+	;	
	I PRIMARY REMOVAL		1	1	1	1	1	
	Z SECONDARY REMOVAL					1		
	Influent TKN (mg/L)							
	Primary TKN (mg/L)	1				i		
	Secondary TKN (mg/L)	1	1	1	1	1	:	
	Z PRIMARY REMOVAL	:	1	_ :	1	1	- 1	
	Z SECONDARY REMOVAL		1	1	1	1		
	Influent Total P (mg/L)			!	6.80		!	
	Primary Total P (mg/L)			7.20 1	5.00 :	6.00		
	Secondary Total P (mg/L)	1.10	0.90 1	0.80 ;	1.00	1.00 1		
	Z PRIMARY REMOVAL	1	1	1	26.5 :	1	1	
	% SECONDARY REMOVAL	1	1	1	85.3 :	1	1	

### MISSISSAUGA (CLARKSON) NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: June 26, 1987

SAMPLING SEASON: Summer (Warm Meather)

DESIGN AVE FLOW: 109,100 m3/d

			PRE-SA	MPLING PER	100		
PARAMETER				DAY 11			DAY 14
RAN SEWAGE FLON	78,160	;	75,850	:	76,030	1	
RAW SEWNOL I LOW				1	1	1	
I of Design Flow	71.6421	1	:	;	}	1	
Influent BOD (mg/L)			: :	120.0			
Primary BOD (mg/L)	1	8	1	81.0 :	96.0 ;	1	
Secondary BDD (mg/L)	1	:	3 9	15.0 :	17.0 :	3 9	
2 PRIMARY REMOVAL	1	1	1	32.5 :	1	:	
I SECONDARY REMOVAL	1			87.5	- 1	:	
Influent SS (mg/L)			1	208.0	i		
Primary SS (mg/L)	1	2	1	90.0 :	85.0 :	;	
Secondary SS (mg/L)	1	1	8.0 3	10.0 :	14.0 ;	;	
I PRIMARY REMOVAL	8 1	1	1	56.7 1	1	*	
% SECONDARY REMOVAL	1	1	1	95.2 1	3	:	
Influent NH4 (mg/L)		·;	i				
Primary NH4 (mg/L)	1	1	1	:	3	1	
Secondary NH4 (mg/L)	1	1 1	1	8 9	1	;	
I PRIMARY REMOVAL	1	1	1	:	1	;	
I SECONDARY REMOVAL	1	1	1		1	1	
Influent TKN (mg/L)							
Primary TKN (mg/L)	1	3 8	17.0	1	1	1	
Secondary TKN (mg/L)	1	8	4.0	1		1	
% PRIMARY REMOVAL	1	1	3	2 1	1	1	
I SECONDARY REMOVAL	1	:	1	1		:	
		;					
Influent Total P (mg/L)	1	i	1	7.20		1	
Primary Total P (mg/L)	1	:	1	4.80 1			
Secondary Total P (mg/L)	1	1	0.90			;	
I PRIMARY REMOVAL		i	1	33.3 {	i	i	
% SECONDARY REMOVAL		4		88.9 1	1	1	

#### MISSISSAUGA (CLARKSON) NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: June 26, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 109,100 m3/d

:				SAMP	LING PERIO	0		
1	PARAMETER :	DAY 15 :	DAY 16 1	DAY 17 :	DAY 18 ;		DAY 20	DAY 21
:	RAW SEWAGE FLOW	120,360	92,790	83,860 :	82,790	B2,000 :	76,050	70,000
3 3 3	I of Design Flow	110.322	85.051	76.871	75.882	75.162	69.712	64.167
!	Influent BOD (mg/L)		141.0		90.0			
1	Primary BOD (mg/L) Secondary BOD (mg/L) Z PRIMARY REMOVAL	17.0	18.0	21.0	13.0	13.0	•	
	Z SECONDARY REMOVAL	8	87.2	1	85.6			
:	Influent SS (mg/L) Primary SS (mg/L)		125.0		188.0			
1	Secondary SS (eg/L) I PRIMARY REMOVAL	12.0	12.0	30.0 !	12.0 :	12.0 :	8 9 8	
!	7 SECONDARY REMOVAL		90.4		93.6 1			
	Influent NH4 (mg/L)	10.0						
:	Primary NH4 (mg/L) Secondary NH4 (mg/L)	18.0 t	i		i	i		
:	Z PRIMARY REMOVAL		1		; ;	1	i	
	Influent TKN (ag/L)							
i	Primary TKN (mg/L) Secondary TKN (mg/L)	1	1			;	1	
	I PRIMARY REMOVAL I SECONDARY REMOVAL						;	
   	Influent Total P (mg/L) Primary Total P (mg/L)		7.60		6.40			
-	Secondary Total P (mg/L)	0.90	1.00	1.00	0.70	0.90 :		
!	Z PRIMARY REMOVAL Z SECONDARY REMOVAL				100.0 1	1		

PLANT NAME: Mississauga (Clarkson) PLANT TYPE: Secondary

Sewage	Weight
Raw	Wet
00	
SAMPLING TYPE	SAMPLE FORM

GLOBAL.

GLOBAL SPREAD PACTOR

PLANT SPREAD PACTOR

GLOBAL GEO. MEAN

GEO. MEAN

GLOBAL GLOBAL GLOBAL

# # % FREQ.
SAMPLES DET DET.

\* PREQ. DET.

PLANT DET.

UNITS QC PLANT PLANT PLANT
CODE MIN. CONG. MAX. DET. #
> x.DL CONG. SAMPLES

CONTAM: CONTAMINANT NAME INANT

NAEN	BODS COD DOC NNHTPR NNTKUR PH.T PR.T RSP RSP,OI NNOZPR	METALS	ALUT CRUT CRUT CCUUT HGUT HGUT SRUT CDUT CDUT NIUT	BASE NET PMPIEN PMBBP PMMCRE	DIOXINS P98CDD	PSAD PIBHCO PIDMOT PSILV PIGHLA PIBHCA PIBHCA PIBHCA PIBHCA
CONVENTIONALS	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED OXIGANIC CABBON AMMONIUM, TOTAL PILT REAC. NITROGEN-TOT-KLEL, UNP. TOT (-LOGHI-COUNCY)) PHOSPHORUS, UNPIL, TOTAL RESIDUE, PARTICULATE RESIDUE, PARTICULATE PHENDLE, PARTICULATE PHENDLE, PARTICULATE PHENDLE, PARTICULATE PHENDLE, SEACT.	MINATES, TOTAL PILLINGAR.	ALUMBNUM, UNPILT, TOTAL CHROMIUM, UNPILT, TOTAL COPPER, UNPILT, TOTAL MERCURY, UNPILT, TOTAL ZINC, UNPILT, TOTAL LEAD, UNPILT, TOTAL LEAD, UNPILT, TOTAL CADMIUM, UNPILT, TOTAL MCREH, UNPILT, TOTAL MOLYBDENUM, UNPILT, TOTAL MOLYBDENUM, UNPILT, TOTAL	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS  WATER PARIEN PHENOL PRINCE	DIOXINS AND FURANS P98CDD OCTACHLORODIBENZODIOXIN	24-DICHLOROHENOXYAGETIC ACED GAMMA-BHCGEXCHLORCYCLHEXANE) BETA-BHC (HEXCHLORCYCLHEXANE) BETHOXYCHLOR SILVEX ALPHA-CHLORDANE ALPHA-CHLORDANE ALPHA-BHCGHEXCHLORCYCLHEXANE) DELDRIN BEDDRIN
	1111 1111		333333333	UNDS FEET	No.	33333333
	0000000000	>	000000000	~ ~ ~ ~	pee	6 M 6 M F
	112.00 208.00 4.50 13.10 17.00 6.11 56.20 96.20 003		670,00 20,00 120,00 120,00 120,00 10,00 20,00 20,00	25.80 10.70 29.20 11.50	0.73	0022
	308.00 1110.00 65.00 21.60 76.50 6.97 17.90 482.00 191.00 0.04		4600.00 230.00 130.00 670.00 1000.00 570.00 20.00 50.00 30.00	91.50 21.00 90.70 12.70	67.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
	29222222722	4	220522222	2222	**	22222222
	29222222		4465440004	~@@A	-	***
	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	2	100.0 100.0 100.0 100.0 100.0 100.0 35.7 28.6	58.3 50.0 25.0	90.0	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0
	260 260 271 273 273 273 275 266 90 271		322 322 49 49 319 322 322 322 321	275 275 275 275	*	222
	266 258 271 271 273 278 248 266 89 58	1	306 237 48 274 318 315 37 76 103	118 34 167	•	234 143 32 32 47 28 7
	99 8 99 2 100 0 10		95.0 73.6 96.0 99.7 97.8 17.7 23.6 32.0	42.9 12.4 60.7 5.8	4.6	77.5 51.8 11.6 17.0 10.1 2.5 2.9
	170.96 367.69 28.85 17.26 28.62 6.70 193.6 192.63 80.10 0.01		1570.00 60.00 120.00 0.40 470.00 310.00 70.00 10.00 20.00 10.00	18.76 8.64 20.87 6.62	121	0.02 0.02 0.03 0.09 0.01 0.01
	140.23 287.75 22.39 12.37 25.44 6.90 5.18 126.88 100.84 0.01		1000.10 51.10 110.60 0.23 370.70 211.00 59.50 6.50 38.80 12.40	14.52 28.5 25.59 5.57	7800	0.02 0.03 0.03 0.03 0.03 0.03 0.03
	1.58 1.64 1.14 1.14 1.45 2.05 1.52 3.60 1.47		1.98 2.07 1.06 1.15 1.13 2.74 2.11 1.65	240 1.83 3.01 1.70	204	\$2424555
	1.93 1.82 1.69 1.69 1.78 1.78 2.29 2.29	ŝ	265 3444 228 211 214 214 209 209 172	246 1166 3.45 1.47	366	3772 229 1166 1168 1146 1128

PLANT NAME: Mississauga (Clarkson)

SAMPLING TYPE: Raw Sewage

	GLOBAL		46.0 40.5 13.5		37.8 22.4 32.4 34.3 5.4 18.9	
	GLOBAL SPREAD FACTOR		231 248 1.26		202 1.75 1.75 1.28 1.28 1.10	
	PLANT SPREAD FACTOR		1.92 2.47 1.37		247 195 206 126 127 179	All property
eight	GEO. GEO. MEAN		900		25.00 23.50 23.50 22.47 20.55 30.10	
: Wet Weight	PLANT GEO. MEAN	N.	0.01		43.68 29.83 25.92 33.90 23.66	
SAMPLE FORM	GLOBAL S. FREQ. DET.		15.2 12.7 1.8		15.7 11.0 10.2 9.1 2.6 0.7 4.4	
SAMPL	GLOBAL # DET		38.2		43 30 28 25 7 7 112	
	GLOBAL # SAMPLES		276 276 276		274	
	FLANT & FREQ. DET.		222		8.3 8.3 8.3 8.3 8.3	
	PLANT # DET.	M.			048NN==	
	PLANT # SAMPLES		222		222222	
	PLANT MAX. DET. CONC.		0.03		260,00 160,00 110,00 130,00 14,00 130,00	
ondary	CODE MIN. CONG.		0.38		47.00 91.00 91.00 10.00 130.00	
200	2000		~~~			
FLANT TYPE : Secondary	UNITS QC CODE		333		44444	
FLAN	CONTAMINANT NAME	PFSTICIDES, HERBICIDES, PCBS	PCB, TOTAL 1,24-TRICHLOROBENZENE HEXACHLOROBIHANE	VOLATILES ORGANIC COMPOUNDS	M., AND P.XYLENES ETHYLBENZENE CHLOROPORM O.XYLENE I, IDICHLOROMETHANE BROMODICHLOROMETHANE TETRACHLOROETHYLENE	
	CONTAM- INANT	PESTICIDA	PIPCBT X2124 X2HCB	VOLATILE	BZMPXY BZEBNZ XICHLO BZOXYL XIDCLE XIBDCM XITETR	

LANT NAME: Mississauga (Clarkson)		
L N	(Clarkson)	
L N	Mimistauga	Secondary
L N		-
NN	NAME	TVPE
	TNY	_
	-	-

SAMPLING TYPE : Final Effluent

77.8 100.0 100.0 100.0 96.4 88.7 89.3 71.4 67.9 GLOBAL & PREV. 964 321 321 143 7 143 232 GLOBAL SPREAD FACTOR Š 3.43 35388 933 25,500 1,500 3.12 1.65 27575 32.5 PACTOR FACTOR 13.10 0.03 340.90 53.30 101.70 22.10 9.00 2.10 6.60 16.50 21.22 8.09 0.22 2.33 7.10 7.10 10.12 7.47 7.47 8 031 273 GLOBAL GEO. MEAN 0.00 SAMPLE FORM: Wet Weight 12.26 1.27 1.14 1.07 1.00 1.00 1.00 1.00 0.05 0.09 990.00 00'09 1.16 0.45 0.00 245 GEO. MEAN GLOBAL S. FREQ. DET. 99.1 100.0 100.0 100.0 100.0 100.0 100.0 14.7 98.1 98.1 98.1 98.1 98.1 98.1 98.1 1.8 20.0 120 9.1 GLOBAL 25 28 28 28 DET. 470 GLOBAL SAMPLES 228 4 333 PLANT & FREQ. DET. 190.0 190.0 190.0 190.0 190.0 190.0 100.0 100.0 100.0 100.0 57.1 7.1 7.1 50.0 25.0 25.0 8.3 8.3 8.3 9.2 5 MAM DET. 222222222--4 4544000---208--N M -SAMPLES PLANT 12 22-2222222-25 ~22222222 64 22222 === MIN. CONC. MAX. DET. 220.00 20.00 20.00 20.00 10.00 30.00 33.10 8.80 8.80 2.10 17.30 11.37 21.40 11.90 0.44 5.70 0.20 0.03 9.40 10.10 25.60 0.28 0.28 1.90 6.49 0.31 5.80 6.80 0.30 50.00 0.00 00.00 00.00 00.00 00.00 5.70 0.20 340 00000 STD. FOR STD. REF. ONT-MOB ONT-MOB ONT-MOE ONT-MOE ONT-MOR ONT-MOB ONT-MOB NYS-STD NYS-STD ONT-MOE ONT-MOR ONT-MOR ONT-MOR ONT-MOR UNITS QC STD. FUR CODE SURFACE 5.00 6.20 3750.00 150.00 30.00 75.00 25.00 100.00 10.00 0.00 0.30 0.00 WATER 0000000000 000000000000 \_ 2222 Me A 7 333 555555555 35555 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS DAMMA-BHOTHEXCHEORCYCLJEXANE) 2,4-DICHLOROPHENOXYACETIC ACID CONTAMINANT NAME DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL FILT. REAC. P98CDD OCTACHLORODIBENZODIOXIN MOLYBDENUM, UNPILT. TOTAL LEAD, UNPILT. TOTAL NITRATES, TOTAL PILT. REAC. NITROGEN-TOT-KJEL, UNP. TOT CHEMICAL OXYGEN DEMAND BOD, 5 DAY -TOTAL DEMAND PHOSPHORUS, UNPIL, T. TOTAL, RESIDUE, PART, OSS ON IGNI. CHLOROPORM BROMODICALOROBENZENE NICKEL, UNFILT. TOTAL. CHROMIUM, UNFILT. TOTAL. STRONTIUM, UNFILT. TOTAL. ALUMINUM, UNFILT TOTAL 1,24-TRICHLOROBENZENE MERCURY, UNPILT, TOTAL CADMIUM,UNITELT.TOTAL RESIDUE, PARTICULATE VOLATILES ORGANIC COMPOUNDS COPPER, UNFILT TOTAL 1,2-DICHLOROETHANB HEXACHI OROBIHANE NITRITE PILT. REACT. ZINC,UNI-IL,T.TOTAL ESTICIDES, HERBICIDES, PCBS (-LOG(H+(CONCN)) PHENOLICS (AAAP) PMNITB NITROBENZENE DIOXINS AND PURANS SILVEX CONVENTIONALS NNOTFR XICHLO B2BDCL CONTAM-RSPLOI NNITTPR PHINOL NNOZPR INANI METALS XII2CB ALLT NRCT CRUT MOUT CULT CDCT ZNIZ

PLANT NAME: Mississauga (Clarkson)
PLANT TYPE: Secondary

SAMPLE FORM : Dry Weight

GLOBAL % PREV.		100.0 100.0 100.0 100.0 100.0 100.0 100.0		800 900 1000 1000 1000 1000 1000 1000 10	14.7 85.3.7 2.9 86.8 86.8	79.4 17.7 17.7 18.2 67.7 67.7 80.0 44.1 20.6
GLOBAL SPREAD FACTOR		2.22 2.28 2.29 1.10 3.54 1.81 1.77		2.61 2.01 4.35 4.66 4.66 4.66 1.72 1.72 2.28 2.29 2.29 1.99 1.99	3.75 12.16 1.81 3.60	3.18 5.50 3.20 2.20 2.20 2.13 2.13
PLANT SPREAD PACTOR		0.00 0.00 0.00 0.00 0.00 0.00 1.35 1.08		2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00	2.76 48.79 3.53 1.46	1.83 3.35 2.52 14.87 1.75 1.06 1.06 1.075 2.07
GLOBAL GEO. MEAN		892221.45 5911.32 25.44 3687.85 6.03 82.34 2034.70 32783.51 20803.05		30.17 9835.44 98.39 30.43 606.31 2.23 5.80 39.17 173.99 3.04 2.21 5.80 39.17 173.99	3823.30 2972.30 8.50	8.70 93.20 4.60 7.40 8.90 8.90 6.00 4.580 4.580
PLANT GEO. MEAN	100	385067.70 11926.73 28.66 32040.46 3.65 89.17 32000.56 66207.55 37442.49		199.06 729.06 8.94 27.44 22.61 35.29 588.31 3.98 13.47 72.19 580.76 580.76 5946.86	6988.70 37319.20 3495.90	87.90 36.00 83.0 9.40 10.70 16.50 6.80 9.50
GLOBAL % FREQ. DET.		100.0 97.9 100.0 100.0 100.0 100.0		88.9 100.0 98.0 93.0 73.2 98.0 100.0 98.0 98.0 100.0	11.8 82.3 2.0 20.0	48 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
GLOBAL # DET	17	\$\$\$\$\$\$\$\$		5 2 2 5 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	22 - 2 6	5 % n x 8 % v v v w
GLOBAL # SAMPLES		*****		\$ 2 2 5 5 5 7 8 5 7 2 2 2	8	~~~~~~~~~
PLANT F FREQ. DET.		100.0 100.0 100.0 100.0 100.0 100.0 100.0		100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	90.0 90.0 90.0 90.0	100.0 100.0
PLANT PET.		nnnn		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	0	<b>000000000</b>
PLANT # SAMPLES	211	00000		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	0 0 0	<b>0000000000000000000000000000000000000</b>
MAX. DET. CONC.		946991.40 11926.73 26.66 39808.92 5.65 89.17 39490.45 69800.00		20.06 14.33 42.98 44.41 415.47 673.35 4.73 13.47 134.67 659.03 3.44 410.51 1088.83	14326.60 883004.60 8830.30 18,60	134.70 84.50 84.50 63.70 7.20 17.20 207.00 5.70
UNITSQA/QC PLANT (DRY CODE MIN. CONC. EIGHT) > DL		361464.97 11926.75 28.66 25787.97 5.65 89.17 25931.23 62800.00		19.75 6400.32 5.57 17.52 19.75 299.34 514.01 33.4 13.4 38.69 511.78 1.91 27.221 823.41	3409.20 883094.60 8330.30	57.30 15.30 4.30 63.70 7.20 17.20 290 207.00 5.70
UNITSQA/QC PLANT (DRY CODE MIN. CON WEIGHT) > DL				ALARES O STATE	\$\$\$ \$	
CONTAMINANT NAME	JONALS	CHEMICAL OXYGEN DEMAND AMMONIUM, TOTAL FILT REAC. NITRATES, TOT ALEL, UNF. TOT NITROGEN: TOT ALEL, UNF. TOT (4.1004(H-(CONCN)) PHENOLICS ((AAP) PHOSPHORUS, UNFILT. TOTAL RESIDUE, TOTALOSS ON IGNI.		AGUT ALJUMINUM, UNPIL.TOTAL MEMA ANSENIC, UNPIL.TOTAL MEMA DUT CADMIUM, UNPIL.TOTAL MEMA COBALL, UNPIL.TOTAL MEMA COPPER, UNPIL.TOTAL COPPER, UNPIL.TOTAL MERCREY MOUT MOLY BDENUM, UNPIL.TOTAL MERCREY MOUT MOLY BDENUM, UNPIL.TOTAL MEMA MUT NICERL, UNPIL.TOTAL MEMA MOUT MOLY BDENUM, UNPIL.TOTAL MEMA SEL SELENUM, UNPIL.TOTAL MEMA MEMA MEMA SELENUM, UNPIL.TOTAL MEMA MEMA MEMA MEMA MEMA MEMA MEMA ME	PRACTE MAPPITHALENE MACRESOL, MAND N.NITROSO-DI-PHENYLAMINE DIOXINS AND FURANS PECDO OCTACHLORODIBENZODIOXIN PERTICIDES,HENBICIDES, NCBS	PCB, TOTAL 24-DICHLOROPHENOXYACETIC ACED ALDRIN BETA-BHC (HEXCHLORCYCL JEXANE) ACAMMA-BHC(HEXCHLORCYCL JEXANE) ACAMMA-CHLORDANE GAMMA-CHLORDANE METHOXYCHLORDANE OXYCHLORDANE
CONTAM.	CONVENTIONALS	COD NNHTPR NNOTTR NNTKUR PH PHUOL RST RST	METALS	AGUT ALUT ASUT CEUT CEUT CEUT CEUT CEUT HIGUT MOUT NEUT PBUT SEUT ZEUT	PNNAPH PMERE PMEND DIOXINS A PPECDD	PIPCBT P324D PIALDR PIBHCG PIGHLG PICHLG PICHLG PICHLG PICHLG

MARKETTE

11-41-1

PLANT NAME	PLANT NAME: Mississauga (C	: Mississauga (C: Secondary	Clarkson)					SAMPL	SAMPLING TYPE SAMPLE FORM	: Raw Sludge : Dry Weight	udge			
	UNITSQA/QC PLANT (DRY CODE MIN. CON WEIGHT) > DL	INTEGAOC PLANT (DRY CODE MIN. CONC. ERGIT) > DL	MAX. DET. CONC.	PLANT 8 SAMPLES	PLANT PDET.	PLANT P FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL S. FREQ. DET.	PLANT GEO. MEAN	GEO. GEO. MEAN	PLANT SPREAD PACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
PP-DDD 24,5-TRICLORPHENOXYACETIC ACID 1,24-TRICLILOROBENZENB HEXACHLOROBENZENE		4.30 10.00 84.50 18.60 21.50	4.30 10.00 18.50 21.50	~~~~		\$0.0 \$0.0 \$0.0 \$0.0	55555	22 21 21 11 11 11	85 41 83 83	8.30 12.60 26.00 17.20 18.50	5.10 7.30 48.90 9.30 5.60	2.52 1.39 5.30 1.12 1.24	2.48 2.31 3.49 4.06 2.65	35.3 47.1 36.2 36.2
	***	13216.60 23885.40 14172.00 5573.20	13216.60 23885.40 14172.00 5573.20	~~~		80.0 80.0 80.0 80.0 80.0	2222	0.9 8 2	19.6 31.4 15.7 23.5	1945.90 2615.90 2015.00 1263.60	890.70 1345.90 841.60 1225.10	15.02 22.82 15.78 8.16	2.60 3.86 2.51 4.34	26.5 23.5 33.3

PLANT NAME: Mississauga (Clarkson) PLANT TYPE: Secondary

SAMPLING TYPE: Treated Sludge

SAMPLE FORM : Dry Weight

GLOBAL % PREV. 95.0 95.0 95.0 95.0 95.0 95.0 95.0 90.0 97.1 90.0 97.1 90.0 97.1 97.1 90.0 47.1 7.7 8.8 8.8 8.8 8.8 64.7 GLOBAL SPREAD FACTOR 2222 3.84 4.39 PLANT SPREAD FACTOR 2.28 0.00 0.00 0.00 3.10 1.40 1.40 8 GEOBAL GEO. MEAN 1916.90 1545.60 3222.10 1405.80 1276.20 1890.80 1352.10 2220.50 37.78 10715.94 5.40 10.47 9.14 333.06 732.24 1.24 6.41 72.95 196.62 267 240.93 988.90 8.80 8.80 6.50 17658.28 42.68 38494.12 7.17 43.05 76638.67 80434.04 43379.33 7.10 77.44 61143.28 9.84 60.52 37919.38 37678.38 20142.49 GEO. MEAN 31.30 \$2.50 192.80 18.80 7873.10 23586.90 11268.00 4380.40 5108.00 5620.70 3173.80 46127.95 53.03 25.34 454.58 4775.05 620 293 75.98 802.05 3.52 425.43 056.45 34.60 GLOBAL S FREQ. DET. 88.5 0000 0000 0000 0000 0000 98.0 98.0 99.1 99.1 99.0 98.0 98.0 98.0 99.0 99.0 99.0 0000 53.1 GLOBAL PET THE 8224445888 11 13 22 22 SAMPLES GLOBAL 8884448888 48848848488888 22222222 2000 PLANT % FREQ. DET. 100.0 100.0 100.0 100.0 100.0 100.0 100.0 50.0 50.0 50.0 50.0 50.0 50.0 100.0 PLANT PET. SAMPLES PLANT 2222 MAX. DET. CONC. 67.30 437.70 230.10 10.50 46127.95 77.44 75084.18 9.84 134.68 46127.95 47800.00 20.92 10472.73 12.46 69.04 31.31 519.87 37037.00 25585.80 15083.70 9171.70 12471.40 6255.20 2991.60 35.60 UNITSQA/QC PLANT
(DRY CODE MIN. CONC. |
WEIGHT) > DL. 46127.95 46127.95 77.44 49790.80 9.84 27.20 31.171.55 29700.00 16100.00 1673.60 21744.10 15083.70 9171.70 12471.40 6255.20 2991.60 14.60 6.30 161.60 10.50 9.21 40.74 20.50 397.49 669.46 4.71 2.93 50.17 711.30 3.35 313.81 941.42 35.60 \$\$\$\$\$\$\$\$\$\$\$ \*\*\*\*\*\*\*\*\*\* "VE **\$\$\$\$** 5555555 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS ALDRIN
BETA-BICCHEXCHLORCYCLHEXANB)
PCB, TOTAL,
ALPHA-CHLORDANB. CHEMICAL OXYGEN DEMAND AMMONIUM,TOTAL FILT REAC. NITRATES,TOTAL FILT REAC. NITROGEN-TOT-KLEL,UNF.TOT OCTACH ORODIBENZODIOXIN MOH. Y BIDENIUM, UNFILT. TOTAL N-NTIROSO-DI-PHENYLAMINE SILVER, UNFILTTOTAL
ALUMINUM, UNFILTTOTAL
ARSINIC, UNFILTTOTAL
CADMIUM, UNFILTTOTAL
COBALT, UNFILTTOTAL
CIRCOMIUM, UNFILTTOTAL PHENOLICS (4AAP)
PHOSPHORUS,UNFILT.TOTAL RESIDUE TOT LOSS ON IGNI. SFIRONTIUM, UNFILT. TOTAL STRONTIUM, UNFILT. TOTAL ZINC, UNITILT. TOTAL BUTYLBENZYLMITHALATE MERCURY, UNFILT. TOTAL CONTAM: CONTAMINANT NAME INANT COPPER, UNPILL TOTAL NICKEL, UNFILT. TOTAL FAD UNFILT TOTAL PESTICIDES, HERBICIDES, PCB (-LOG(II+(CONCN)) DIPIENYI, ETHER RESIDUE, TOTAL. PIENANTI IRENE NAPITITALENE NITROBENZENE BIMIENYL, PLUORENE DIOXINS AND FURANS CONVENTIONALS NNITTI'R NNOTH'R NNTKUR METALS PLALDR PLBHCB PLCHIA PWBBP PWNAPH PWNTFB PWNTB PWBFH PWBFH PWPFUO PWPFEN PSSCDD PHI PHINOL PPIT RST RSTOI ALUT ASUT COUT COUT COUT COUT MOUT NRUT PRICT

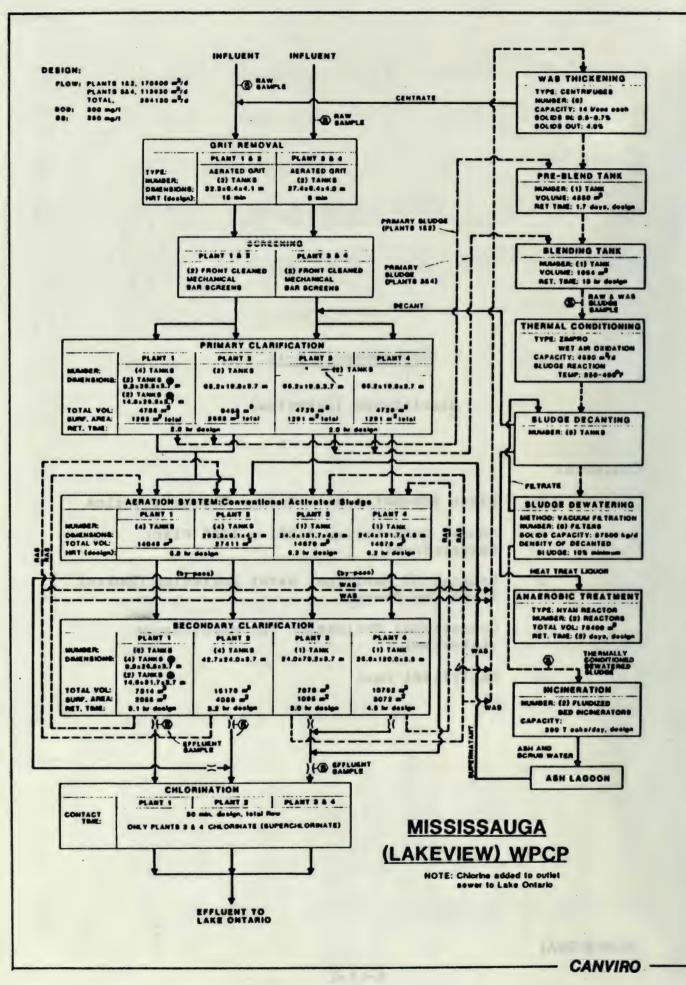
	VId	PLANT NAME		: Mississaug : Secondary		(Clarkson)					SAMPL	SAMPLING TYPE SAMPLE FORM	** **	Treated Sludge Dry Weight				
CONTAM. INANT	CONTAMINANT NAME		UNITSQ (DRV CI WEIGHT)	SODE MI	UNITSQA/QC PLANT (DRY CODE MIN.CONG.) RIGHT) > DL	MAX. DET. CONC.	PLANT # SAMPLES	MANT PET.	PLANT S FREQ. DET.	GLOBAL. * SAMPLES	GLOBAL # DET	GLOBAL. S. PREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.	
					13 60	13 60	,	-	005	95	21	42.0	33.60	08'9	1.00	2.58	52.9	2
PICHI,G	GAMMA CHI ORDANE				976.40	976.40	9 60		50.0	20	13	30.0	101.30	34.10	24.65	4.42	38.2	
PIDMIN	METHOX VCHLOR				6 30	01.9	2		20.0	20	10	20.0	14.60	5.20	3.27	2.86	23.5	
PHILIP	STACING SELECTION OF STATE OF		200	4 ==	8.40	8.40	5	-	90.0	90	6	0.81	16.80	4.70	2.67	2.30	23.5	
PHHEPT	HE TACHLOR				8.40	8.40	7	-	80.0	. 08	•	12.0	16.80	4.20	2.67	2.34	17.7	
PICKIE	OX TCHLORDAME				8.40	8.40	7	-	50.0	90	7	14.0	16.80	4.60	2.67	2.47	20.6	
DIMANO	000-44		2		10.50	10 50	7	-	80.0	50	×	68.0	18.80	11.10	2.28	272	73.5	
PIPPIN	Promis commonway	C ACID	200	- ~	77 40	77.40	2	-	50.0	50	16	32.0	114.20	84.40	1.73	3.13	41.2	
15775	2,4,5-1 MICLORPHENOA TACKIC ACID	TACIES ACIES			194 60	194.60	2	_	90.0	30	25	90.0	114.40	75.00	2.12	5.81	6.7	
P32AD	Z4-DICHLOROPHENOATACETIC ACID	IL ALID			42.30	\$2.30	2	_	20.0	20	1.8	36.0	93.80	92.70	2.29	2.94	1.1	
P3SIL,V	Su.vix	1810.010	a X	2	630.30	639.70	, 6		20.0	9	•	16.0	115.60	34.20	11.24	2.76	23.5	
XIIICCP	HEXACHLOROCYCLOPEN LADIENE	HENE	B W B	٦ ،	17.70	17.70		-	0.08	20	22	44.0	35.60	14.80	1.08	5.02	52.9	
X2124 X214CR	1,24-TRKTII.OROBENZENE HEXACHI.OROBENZENE		248	n 2	46.00	46.00	2	_	80.0	20	21	42.0	39.40	7.00	1.25	2.96	55.9	
VOLATIL	VOLATILE ORGANIC COMPOUNDS																	
								•	4		:		23424 80	406 40	35 1	9 4	12.4	
BZFBNZ	HTHYLBENZENE (OSH10)		ng/kg	1	7154.80	31986.50	0 0	r4 r	100.0	P. \$		9.0	30260.70	816.00	89	7.11	32.4	
BZMPXY	M. AND P. XYLENES		a XX		06.02608	43771.00	7 (	4 (	0000	3	4	28.0	21381.10	523.50	2.17	4.05	32.4	
HXXXYI.	OXYLENE (CMHO)		8 × 8 × 8		2373 30	3733 30	, (		80.0	20	-	2.0	985.90	254.90	3.36	3.34	5.9	
XIIIIX	CH OBOSTOM COLUMN		a Ver		4377.10	4377.10	1 ~		90.0	80	12	24.0	1353.30	441.70	5.26	4.33	35.3	
XIGHO	CHEADROPORM (CHCLS)		0 20															

# Sub-Appendix A-15

Mississauga (Lakeview)

## Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- Operational Evaluation for Mississauga
  (Lakeview)
- o Analytical Data



L. Ontario

LAKEVIEW WPCP SDUTH-PEEL SYSTEM Conventional Activated Sludge Phosphorus Removal - Continuous Capacity - 227.388 18(3)m3/day

PARAMETER	1981	1982	1983	1984	1985	S YEAR AVERAGE
Avg. Daily Flow (1888 m3/day)	178.99	194.62	198.57	198.76	230.52	198.69
BODS - Influent (mg/L)	236.58	284.75	358.83	458.17	274.42	319.35
30D5 - Effluent (mg/L) Annual BOD5 Significantly Different from Mean	16.50	19.69	16.88	18.68	16.58	17.49
Annual Average BDD5?	N	N	N	N	N	
TSS - Influent (mg/L)	248.92	220.67	290.92	357.92	257.25	273.53
TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean	14.98	17.19	19.75	18.88	15.67	17.30
Annual Average TSS?	N	N	N	N	N	1
Total P - Influent (mg/L)	8.11	11.86	11.17	13.98	8.37	10.72
Total P - Effluent (mg/L) Annual TP Significantly Different from Mean	0.78	8.78	8.89	8.85	8.65	<b>8.77</b>
Annual Average TP? TP in Compliance?	N	N Y	H	N Y	N Y	· Y

I.D. - Insufficient Data

## SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

# GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER	LAKEVIEW WPCP 110001284
TREATMENT TYPE	CONVENTIONAL ACTIVATED SLUDGE PHOSPHORUS REMOVAL-CONTINUOUS
DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	284.125 350.038 370000
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	
COMMERCIAL SOURCES (%) (Population x 0.0757)	
	•
RESIDENTIAL SOURCES (%) (Population x 0.175)	<b>18</b>
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from	4
industrial, commercial and residential sources)	
PROFILE OF INDUSTRIES IN CATCHMENT	
TOTAL NO OF INDUSTRIES	4 2 <b>2515</b>
INDUSTRIES WITH WATER	741
NO OF SIC CATEGORIES	68 m
DESCRIPTION OF THE TOP 5 INDUSTRIES DIS	CHARGED TO THE WPCP
(BASED ON WATER USE DATA) DESCRIPTION	SIC # OF COMPANIES
TRANSPORTATION EQ'T	3711-3799 93
PULP, PAPER, PAPERBOARD MILLS	2600-2631 4
	3500-3599 531
GRAIN MILLS	2041-2048
METAL FINISHING	3411-3469 251

### OPERATIONAL EVALUATION FOR: MISSISSAUGA (LAKEVIEW) WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: March 6, 1987
SAMPLING SEASON: Winter (Cold Weather)
DESIGN AV6 FLOW: 284,130 m3/d

2 2 2 2 2 2				PRE-SA	MPLINS PER	IOD		
	PARAMETER	DAV 1	DAY 2 :	DAY 7 !	DAY 4 !	DAY 5 !	BAY 4	BAV 7
11=	THRMUE IER							
11			:	:	:	:	:	
	RAW SEWAGE FLOW	220,456	230.831 :	216,008 :	235.942	254.248	238.667	218,956
::	titin benige i een	1 1 1	1		1			210,700
11	I of Design Flow	77.59%	81.247	76.02%	_	-	84.0021	
	2 0. 2233,	1		1			1	
1:								
1 1	Influent BOD (mg/L)	326.0 1	333.0 :	316.0 :	411.0	366.0 1	355.0 :	
8 8 8	Primary BOD (mg/L)		1	1	1	1	;	
11	Secondary BOD (eq/L)	8.0 :	8.0 :	8.0 :	16.0 :		9.0 :	14.0
	I PRIMARY REMOVAL	1	1	1	;	3 8	1	
2 2 2 2 2 2	I SECONDARY REMOVAL	97.5%	97.61	97.5%	96.11:	1	97.5%	
11-	**************							
9 8	Influent SS (mg/L)	:	1	208.0 :	1	240.0 :	;	
11	Primary SS (mg/L)	1	1	1	:	1	3	
1 2	Secondary SS (mg/L)	13.0 :	9.0 :	13.0 ;	:	21.0 :	21.0 :	27.0
11	7 PRIMARY REMOVAL	:	1	1	;	2 2	1	
8 8	% SECONDARY REMOVAL	:	1	93.71	:	91.2%	9 5	
# 1-				}			;	
8 8	Influent NH4 (mg/L)	1	1	1	1	1	1	
8 8	Primary NH4 (mg/L)	:	:	:	8		*	
9 8	Secondary NH4 (mg/L)	1 1	1	;	i	3	8	
8 8	Z PRIMARY REMOVAL	1 1	1	2 2	ł	9	;	
**	I SECONDARY REMOVAL	;	1	1	1	1	1	
11-			;					
11	Influent TKN (eg/L)							
3 3 3 3 3	Primary TKN (mg/L)							
11	Secondary TKN (mg/L)							
3 1	7 PRIMARY REMOVAL	i i	š		1	i	i	
* 1	I SECONDARY REMOVAL	i i	i	i	i	i	i	
11-		0.40	0.75	;	44.40		;	
11	Influent Total P (ag/L)			i	11.42	i	i	
11	Primary Total P (mg/L) Secondary Total P (mg/L)		-	i	1.35	i	0.67	
4 2	I PRIMARY REMOVAL	, V./J i	V.31 i	i	1.72 !	i	V. 6/ 1	
		1 n i	D4 2*1	i	00.00	i	i	
1 1	% SECONDARY REMOVAL	91.12	94.211	i	88.2%	i	i	ł

## MISSISSAUGA (LAKEVIEW) WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: March 6, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVG FLOW: 284,130 m3/d

11				PRE-SA	MPLING PER	RIOD		
11	PARAMETER	DAY 8	DAY 9 :	DAY 10 ;	DAY 11		DAY 13 1	
11		:	:	:	:			
11	RAW SEWAGE FLOW	237,758	219,444	272,253	230,221	256,416	237,536	333,813
11 .	I of Design Flow	83.68%	77.232	95.82%	81.037	90.251	83.60%	117.492
11	3		1		1		1	
11-	Influent BOD (mg/L)	155.0	258.0	324.0	299.0	509.0	331.0	
11	Primary BOD (mg/L)	1	1	1	1		1	last feet
11	Secondary BOD (mg/L) Z PRIMARY REMOVAL	10.0	11.0	27.0	9.0 1	19		
11	% SECONDARY REMOVAL	93.52	95.72	91.72	97.02		- 11.3	
11-	Influent SS (mg/L)		i		1			
11	Primary SS (mg/L)		1	1	1			
11	Secondary SS (mg/L) 2 PRIMARY REMOVAL	,		i				
11	1 SECONDARY REMOVAL			1	1			
11-	Influent NH4 (ag/L)					*******		
11	Primary NH4 (mg/L)	1	:	1	1			
11	Secondary NH4 (mg/L)		1	1		LA		
11	Z PRIMARY REMOVAL Z SECONDARY REMOVAL		i	i	1			
!!	* SCOURTHY REMOVAL							
11	Influent TKN (mg/L)	1	1	1	-	_ 0		
11	Primary TKN (mg/L) Secondary TKN (mg/L)		:	i	•			1
11.	2 PRIMARY REMOVAL							
11	% SECONDARY REMOVAL		1	1				
11	Influent Total P (mg/L)		8.97		12.25			
11-	Primary Total P (mg/L)	1	1	1	1			i
11	Secondary Total P (mg/L)	0.77 !	0.83 :	1	0.43 !	0.49	1	1
11	Z PRIMARY REMOVAL		90.7%		96.51			i
	A SECONDANT MENUVAL	i	70.761	'	70.341	'		

MISSISSAUGA (LAKEVIEW) NPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: March 6, 1987

PERIOD ENDING: March 6, 1987 SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 284,130 m3/d

**						SAM	PLIN6	PERIO	D				9
11	PARAMETER	DAY	15	DAY	16 :	DAY 17	: DAY	18 !	DAY 19	. DAY 20	,	DAY 21	
										_			
11					:		:			:	:		
11	RAW SENAGE FLOW	327.	186	273	.711 1	276,006	262	.369	264.240		i		1
11		,			1	,	:	,	221,211		i		
2 2	% of Design Flow	115	. 15%	9	6.331:	97.142	9	2.342	93.002		!		1
1 2													
::-					;								!
11	Influent BOD (mg/L)				1		1	3					1
11	Primary BOD (ag/L)		1		1		2	1		1	1		3
8 B	Secondary BOD (mg/L)		1				l i	1					1
::	2 PRIMARY REMOVAL		1		1		ž	:		1			
8 B	% SECONDARY REMOVAL		1		1		8	1		1	-		1
11-					;						- }		
3 8	Influent SS (mg/L)		-					1			1		
3 8	Primary SS (mg/L)		1		8		9	1		2	-		-
1 1	Secondary SS (mg/L)		1		3 8		3	1			1		
3 8	7 PRIMARY REMOVAL				2		9	3			1		1
8 B 8 B	I SECONDARY REMOVAL				1		1				1		
-11													:
8 8	Influent NH4 (mg/L)				1		1	1			1		1
3 3	Primary NH4 (mg/L)		1		1		8	;			1		1
2 3	Secondary NH4 (mg/L)		1		1		}				1		8
1 1	Z PRIMARY REMOVAL				1		2	1			1		3
9 E 5 B	1 SECONDARY REMOVAL				1			1					-
11-											-1-		!
8 B	Influent TKN (ag/L)		1		1			1			1		1
2 1	Primary TKN (mg/L)		1		1						1		
3 8	Secondary TKN (mg/L)		1		;		}	1	1		1		!
1 1	2 PRIMARY REMOVAL		1		1		,	:			1		3
1 2	I SECONDARY REMOVAL		3		2	1		2			1		1
11-											-:-		
1 1	Influent Total P (mg/L)		1		1	1		1			3 3		1
11	Primary Total P (mg/L)		1		1	1		1			3 3		1
11	Secondary Total P (mg/L)				1	1		1			1		-
11	% PRIMARY REMOVAL		1		2			1		•	-		3
11	% SECONDARY REMOVAL				3	1		1			1		

## NISSISSAUGA (LAKEVIEW) NPCP

TREATMENT FACILITY: Secondary PERIOD ENDING:

July 17, 1987 Summer (Warm Weather) Summer (war 284,130 m3/d SAMPLING SEASON:

DESIGN AVE FLOW:

	PRE-SA	MPLING PER	IOD		
PARAMETER   DAY 1		DAY 4 !	-	DAY 6 ;	
RAN SEWAGE FLOW	252,974	245,945	267,889	222,603 !	
I of Design Flow	89.032	86.56%	94.282		
Influent BOD (mg/L) : Primary BOD (mg/L) :	416.0	266.0	259.0	311.0	
Secondary BOD (mg/L) : :	1	27.0	23.0	26.0	13.0
Z SECONDARY REMOVAL		89.81	91.17	91.62	96.5
Influent SS (mg/L)		164.0	232.0	40.0	
Primary SS (mg/L) : Secondary SS (mg/L) :		17.0		10.0	9.0
I PRIMARY REMOVAL : :	8 8	89.62	i	75.01	
Influent NH4 (ag/L)	1				
Primary NH4 (mg/L) : : Secondary NH4 (mg/L) : :	•				
Z PRIMARY REMOVAL : :				i	
Z SECONDARY REMOVAL :		 			
Influent TKN (mg/L)	1				
Primary TKN (mg/L) : : Secondary TKN (mg/L) : :			•		
I PRIMARY REMOVAL	1	1			
Z SECONDARY REMOVAL					
Influent Total P (mg/L)		6.25	7.75		
Primary Total P (mg/L) : : Secondary Total P (mg/L) : :			0.59	0.79	0.45
7 PRIMARY REMOVAL	1				
Z SECONDARY REMOVAL :	i		92.4%	i	

#### MISSISSAUGA (LAKEVIEW) WPCP

TREATMENT FACILITY: Secondary PERIOD ENDING: July 17, 1987 SAMPLING SEASON: Summer (Warm Neather)

DESIGN AV6 FLON: 284,130 m3/d

			PRE-SA	MPLING PER	100		
PARAMETER			DAY 10 :				
RAN SENAGE FLOW	242,192	262,310	272,465	322,262	318,249	273,697	
Z of Design Flow	85.24%	92.321	95.89%	113.422	112.012	96.332	75.251
Influent BOD (mg/L) Primary BOD (mg/L)	365.0	403.0	390.0			414.0	180.0
Primary BOD (mg/L) Secondary BOD (mg/L) I PRIMARY REMOVAL	19.0	23.0	15.0	17.0	23.0	23.0	23.0
3 SECONDARY REMOVAL	94.82	94.321	96.21	95.6%		94.42	87.22
Influent SS (mg/L). Primary SS (mg/L)	192.0	308.0	216.0	192.0			188.0
Secondary SS (mg/L) I PRIMARY REMOVAL	6.0	26.0	10.0	7.0 :	52.0 :	25.0	13.0
I SECONDARY REMOVAL	96.9%	91.62	95.421	96.421	85.21	89.61	93.12
Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL		2 2 3 3 3 3 3 3 3		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1		
Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) 1 PRIMARY REMOVAL		1 1 2 3 3		1 1 2 3 1 1	i		2 3 3 3 3 2 1
% SECONDARY REMOVAL	 						
Influent Total P (mg/L) Primary Total P (mg/L)	4.92	9 9	1 2	3.92 :	5.58 1	8 8	8
Secondary Total P (mg/L) 1 PRIMARY REMOVAL	0.27	0.99	1	0.55	0.87	0.75	0.49
I SECONDARY REMOVAL	94.51		3	86.07	84.42	1	:

### MISSISSAUGA (LAKEVIEW) NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: July 17, 1987

SAMPLING SEASON: Summer (Warm Meather) DESIGN AVE FLOW: 284,130 m3/d

			SAMP	LING PERIO	D		
PARAMETER	DAY 15 :	DAY 16 :	DAY 17 :	DAY 18 :		DAY 20	1 DAY 2
		1			- 1		!
RAW SEWAGE FLOW	231,837 :	326,100 :	243,693 :	256,937	256,325 :		1
% of Design Flow	81.602	114.77%	85.777	90.432	90.21%		
Influent BOD (mg/L)	173.0	210.0	188.0	195.0 1	229.0		-
Primary BOD (mg/L) Secondary BOD (mg/L)	i i	23.0	23.0 ;	24.0 :	24.0 :		1
7 PRIMARY REMOVAL 7 SECONDARY REMOVAL		89.0 :	87.8 :	87.7	89.5 1		:
Influent SS (mg/L)	208.0	472.0	204.0	232.0	164.0		-}
Primary SS (mg/L) Secondary SS (mg/L)	49.0	125.0 1	5.0 ;	42.0 1	76.0 :		:
Z PRIMARY REMOVAL	;	;	1	1			
% SECONDARY REMOVAL	76.4	73.5	97.5 1	81.9	53.7 !		 -
Influent NH4 (mg/L)			-				
Primary NH4 (mg/L) Secondary NH4 (mg/L)	·		:				1
7 PRIMARY REMOVAL 7 SECONDARY REMOVAL	! ! ! !	!	:	;	:		1
Influent TKN (mg/L) Primary TKN (mg/L)	:		:	:			
Secondary TKN (mg/L)	1	1		1			1
Z PRIMARY REMOVAL Z SECONDARY REMOVAL		i					
Influent Total P (mg/L)	6.42		7.75	8.75			
Primary Total P (mg/L) Secondary Total P (mg/L)	0.97		0.91	1.13			
7 PRIMARY REMOVAL 2 SECONDARY REMOVAL	: 84.9 :		88.3 :	87.1 :			i

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight GLOBAL % PREV.

GLOBAL SPREAD FACTOR

PLANT SPREAD FACTOR

GEO. GEO. MEAN

GEO. MEAN

GLOBAL S. FREQ. DET.

GLORAL

GLOBAL

PLANT PLANT PRING.

PLANT DET.

FLANT

CONTAM: CONTAMINANT NAME INANT

CONVE	BODS COD DOC NNITHER NNTKUR PH PPUT PPUT RSP RSP- RSP- RSP- RSP- RSP- RSP- RSP-	ALUT CCNFUR CRUT CUUT HOUT HOUT NEUT SRUT CDUT ASUT ASUT SHUT SHUT	PMBGRE PMBBP PMPBBN PNPLUO	PIBHCS PIPCST P34D P34D X2124 P38LV P1BHCA P1GHLA P1HEPT
CONVENTIONALS	BOD 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLIVED ORGANIC CARBON AMMONIUM, TOTAL FILT REAC. R NITROCEN-TOT-FUEL, DIP-TOT R (-LOCHH-CONCN) PHOSPHORUS, UNPET. TOTAL RESIDUB, PARTICOLATH RESIDUB, PARTICOLATH RESIDUE, PARTICOLATH PENOLICS (AAAP)	ALUM ALUMPULTTOTAL CCNPUR CYANIDE-PRIELUNPILTERAC. GROMIUM,UNPILTTOTAL SCULT COPPER,UNPILTTOTAL SEL RUT STROMTUM,UNPILTTOTAL SEL STROMTUM,UNPILTTOTAL SEL STROMTUM,UNPILTTOTAL SEL SEL SEL SEL SEL SEL SEL SEL SEL SE	PMANCRE M.CRESOL, PMBBP BUTYLBHNZYLPHTHALATB PMPBBN PIBNOL, PMPLUO FLUORBINE PEFTICIDES, HERBICIDES, PCBS	GAMMA-BHCOEXCHLORCYCLJEXANE) PCB, TOTAL 24-DICHLORDENOXYACHTCACD 1,24-TRICHLORDENOXYACHTCACD 1,24-TRICHLORDENOXINB 1,24-TRICHLORDENOXINB 1,24-TRICHLORDANB 1
		4444444444 <b>8</b>	3333	*****
	00000000	0000000000		~~~~~~~
	127.00 24.00 24.00 12.30 23.30 6.09 6.13 168.00 0.58	980.00 10.00 19.00 19.00 19.00 19.00 10.00 10.00 10.00 10.00	19.50 14.60 24.50	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
	322.00 694.00 95.00 19.10 33.30 6.74 11.10 202.00 0.58	3400.00 100.00 470.00 246.00 350.00 770.00 70.00 80.00 80.00	78.50 22.70 36.10 24.50	0.00 0.77 0.77 0.07 0.00 0.00 0.00 0.00
	0 * 0 0 0 0 1 1 0 2 0	=======================================	2222	222222222222
	0 = 0 0 0 0 0 0 0 0 0 0 0	332222222888	30 AU A	***************************************
	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 27.3 27.3	8 8 9 9 0 0 0 0	8 9 9 8 \$ 9 8 8 8 8 8 9 9 9 9 9 9 9 9 9
	267 250 271 273 273 273 273 248 267 90 275	322 271 271 49 49 283 322 312 322 321 308 308	32 22 22 22 23 23 23 23 23 23 23 23 23 2	
	266 258 271 273 273 273 248 266 89 37	306 82 237 48 274 274 103 318 318 33 5	34 118	24 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	99.6 99.2 100.0 99.6 100.0 100.0 100.0 99.6 99.9	95.0 13.6 13.6 13.6 13.0 13.0 13.0 13.0 13.0 13.0 13.0 13.0	60.7 42.9 0.4	55 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	225.91 528.01 40.21 15.65 27.66 6.54 8.30 199.62 0.27	1310.00 40.00 110.00 240.00 140.00 10.00 20.00 20.00 20.00	34.39 9.41 12.98 5.86	900 900 900 900 900 900 900 900 900 900
	140.23 287.73 22.39 15.37 25.44 6.90 5.18 126.88 100.84 0.31	1000.10 1.90 51.10 110.60 0.23 38.80 370.70 6.30 10.40 10.40 17.30	25.59 5.85 5.02 5.02	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	1.32 1.60 1.60 1.10 1.00 1.10 1.10 1.10	1.42 1.48 1.48 1.18 1.140 1.40 2.70 2.26 2.16 2.19	245 1.97 2.15 1.65	1.95 2.57 2.36 2.36 2.36 2.36 3.47 3.47 4.59 1.42 1.43
	1.83 1.84 1.85 1.85 1.93 1.78 2.05	2.65 9.88 9.48 2.28 2.70 2.11 2.14 2.29 2.29 2.29 2.20 2.20 2.20 2.20 2.20	3.45 1.06 2.46 1.28	223 231 231 246 246 246 246 246 246 246 246 246 246

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

NT GLOBAL PLANT GLOBAL GLOBAL D. GEO. SPREAD SPREAD % PREY. IN MEAN FACTOR FACTOR	11 0.01 3.26 1.74 24.3 10 0.10 1.09 1.30 13.5	H 22.18 1.76 1.74 18.9 23.90 1.93 1.75 32.4 7 26.00 1.38 2.02 37.8 77 20.16 1.47 1.10 5.4
GLOBAL GLOBAL PIANT # % FREQ. GEO. DET DET. MEAN	15 5.4 0.001 5 1.8 0.10	21 7.7 25.94 28 10.2 27.29 43 15.7 22.17 2 0.7 22.57
PLANT GLOBAL G * FREQ. # DET. SAMPLES	10.0 276 10.0 276	20.0 274 20.0 274 10.0 274 10.0 274
PLANT PLANT # # SAMPLES DET.	100	10 10 10 10 1
QC PLANT PLANT CODEMIN, CONG, MAX, DET. > "DI, CONG.	0.42 0.42 0.13 0.13	55.00 98.00 87.00 103.00 56.00 36.00 67.00 67.00
UNITS QC PLANT CODEMIN. CON	Mp. 1 ENE Mp. 3	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
CONTAM: CONTAMINANT NAME INANT	PESTICIDES, HERBICIDES, PCBS PIPPOB PP-DDB XIHCCP HEXACHLOROCYCLOPENTADIENE	VOLATILES ORGANIC COMPOUNDS XIIIIT 1,1,1-TRICHLOROEHANE XICHLO CHLOROPORM BENEXY M., AND P.XYLENES XICDBM CHLORODIBROMOMETHANE
CONTAM.	PESTICIDE PIPPOE XIHCCP	VOLATILES XIIIIT XIGHLO BEZMFXY XIGDEM

SAMPLING TYPE : Final Emuent SAMPLE FORM : Wet Weight

CONTAM- INANT	CONTAMINANT NAME	UNITS QC CODI	9.0	-	E.	PLANT MIN, CONC.	HANT FLANT I, CONC. MAX. DEF. > DL CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % PREQ. DET.	GLOBAL # SAMPLES	GLOBAL F DET.	GLOBAL * FREQ. DET.	FLANT GEO. MEAN	GEO. MEAN	MANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.
CONVENTIONALS	TIONALS																	
BODS COD DOC NINGTPR NNOZPR NNOZPR NNTFUR PPUT RSP RSP RSP RSP RSP O RSP O RSP O RSP O	BOD, 5 DAY -TOTAL DEMAND CHEMICAL, OX YGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL, ETT. FEAC. NITRITEJETT. REAC. NITRATES, TOTAL, FET. REAC. NITRATES, TOTAL, FET. REAC. NITRATES, TOTAL, FET. REAC. NITRAGOBAL-YOT, KEEL, UNF. TOT HOSPHORUS, UNFET.T. TOTAL RESDUR, PARLOSS ON IGNI. PHENOLICS (AAAF)		0000000000	6.6	ONT-MOR	13.70 84.00 6.75 6.75 0.36 13.20 6.50 0.36 0.15	68.40 182.00 17.50 21.70 23.90 5.95 23.60 7.58 18.00 118.00 88.10 0.23	660000000000000000000000000000000000000	660000000000000000000000000000000000000	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	213 213 220 220 224 224 227 211 211 225 77	211 211 210 220 204 194 186 186 222 222 206 206 206 219 38	99.1 100.0 100.0 91.5 88.2 83.0 100.0 100.0 100.0 175.3 14.7	23.59 99.96 13.06 13.06 0.88 2.11 20.22 7.06 1.10 23.40 23.40 43.48 0.07	22 22 52.80 8.99 8.99 0.23 2.33 7.87 7.10 0.048 10.12	1.78 1.28 1.20 2.23 2.23 2.23 1.20 1.20 1.24 2.24 1.21 1.31	207 1483 1560 698 595 777 103 103 271 126 271 126	1000 1000 1000 1000 1000 1000 1000 100
METALS HGUT NULT SRUT ZNUT ZNUT CRUT ALUT COUT MOUT CCOUT MOUT CCOUT MOUT COUT SRUT COUT PRUT	MERCURY, UNPILITIOTAL STRONTHUM, UNPILITIOTAL STRONTHUM, UNPILITIOTAL GROMIUM, UNPILITIOTAL CALDMINIM, UNPILITIOTAL CALDMINIM, UNPILITIOTAL CALDMINIM, UNPILITIOTAL COPPER, UNPILITIOTAL COPPER, UNPILITIOTAL SULLABUNIM, UNPILITIOTAL	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$		375.00 375.00 375.00 100.00 75.00 5.00 5.00 100.00 25.00 25.00	ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB	9,002 22,000 22,000 70,000 80,000 10,	0.33 220,00 460,00 560,00 20,00 10,00 10,00 10,00 10,00 10,00	222222222222	011111000000000000000000000000000000000	100.0 100.0	233 267 267 267 264 267 272 272 272 272 272 272 272 272 272	220 171 267 285 137 138 42 42 42 42 42 42 42 42 42 42 42 42 43 42 42 42 42 43 43 44 42 43 44 43 44 44 45 46 46 46 46 46 46 46 46 46 46 46 46 46	# 200 B	90.09 2290.00 2290.00 220.00 90.00 90.00 0.00	22.10 340.90 33.40 33.40 33.40 33.40 101.70 113.10 113.10 115.70 115.70 116.70 14.40 6.40	2.66 1.25 1.14 1.14 1.14 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	2.62 2.14 2.14 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.0	100.0 100.0
PISTICID PI BHCG POAD PI BHCB PI GHLG	PIETICIDES, HERBICIDES, PCBS PIBHCO GAMMA-BHCHEXCHLORCYCLHEXANE) PSDB 24-DIGHLOMOPRINOXYAGITIC ACID PIBHCB BETA-BHC GEXCHLORCARB PIGHLA ALPHA-CHLORDANE PIGHLA GAMMA-CHLORDANE PIGHLA GAMMA-CHLORDANE PIGHLA GAMMA-CHLORDANE PIGHLA GAMMA-CHLORDANE PIGHLA GAMMA-CHLORDANE PIRGHT PCB, TOTAL	3333333	~~~~~~	60.0 60.0 60.0 60.0 60.0 60.0	ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB	0.01 0.01 0.02 0.02 0.10 0.10	0.03 0.26 0.02 0.02 0.03 0.30 0.18	00000000	5 2 4 4 4 4	200.0 200.0 200.0 200.0 100.0		157 177 18 18 18 18 18	88 28 28 28 28 28 28 28 28 28 28 28 28 2	0.02 0.03 0.03 0.03 0.03 0.03 0.03	0.05 0.01 0.01 0.01 0.04 0.02	130 132 140 140 179 271 200 1.25	248 471 138 131 131 140 272 272	26.6 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
VOLATELA XIGHLO XIIIIT XIBDCM	VOLATILES ORGANIC COMPOUNDS  XICHLO CHLOROPORM  XILLIT LLL-TRICHLOROMETHANE  XIEDCM BROMODICHLOROMETHANE	***		0.20 50.00 50.00	NYS-STD NYS-QUL	230 530 410	5.30 6.40 6.10	999	e 4 -	30.0 10.0 10.0	222	37	16.5 0.8 1.1	1.53	1.18	202	218	288

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight

GLOBAL % PREV. 85.3 00.0 00.0 00.0 00.0 00.0 2.9 17.7 GLOBAL SPREAD FACTOR 28235212 3.75 1.12 22.28 6.25.22 0.00 1.16 1.16 2.07 1.27 1.10 PLANT 39.22 401.26 467.18 1.10 10.15 14.56 14.56 1.17 1.62 1.53 GLOBAL 892221.45 36897.85 6.03 82.34 20347.70 32783.51 20803.05 5911.32 25.44 GEO. 6.13 9.74 9.29 301.43 606.31 2.23 5.80 5.80 5.80 5.80 5.81.70 905.39 3405.40 3823.30 8.50 25.89 25.89 25.89 25.89 25.89 25.89 25.89 GEO. MEAN 37262.50 147187.90 163901.50 1410018.55 6.45 90.06 22980.06 50385.41 32908.97 94.25 4.09 25.35 13.30 577.20 765.51 228 21.60 27.90 27.90 174.60 10.90 8.80 25.10 GLOBAL % FREQ. DET. 89.6 89.6 98.0 73.2 73.2 98.0 100.0 98.0 98.0 98.0 100.0 12.0 123 S 23 S 35 3 S 35 35 S 35 GLOBAL, \* 130 9 2 8020 8 9 2 8 8 6 2 8 9 2 8 44488448 GLOBAL SAMPLES 200 5 5 5 22222222 FLANT S FREQ. 8 50.0 8 50.0 8 50.0 8 50.0 8 50.0 8 50.0 8 50.0 8 50.0 50.0 0.00 50.0 50.0 50.0 50.0 50.0 50.0 DET. SAMPLES PLANT 2 2 UNITSQA/QC PLANT PLANT (DRY CODE MIN. CONC. MAX. DET. WEIGHT) > DL CONC. 10204081.60 1410018.55 49165.12 7.15 150.74 27272.73 53900.00 36100.00 16734.69 31.54 25.23 26.25 25.23 25.23 380 380 218.55 245.64 390 225.23 225.23 2.10 111.30 129.90 1185.50 334.00 556.60 6.40 37.10 498938.40 498938.40 10204081.60 12653061.20 39915.07 53.80 53.80 19363.06 47100.00 30000.00 16734.69 31.54 203.82 161.36 2.76 150.74 1049.54 25.23 7.01 475.51 726.35 7.42 2.10 4.20 4.20 91.30 445.90 6.40 37.10 410018.55 \*\*\*\*\*\*\* 33 5555555 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS ALDRIN ALPHA BHCHEXCHLORCYCLHEXANE) RETA-BIFC (HEXCHLORCYCL/HEXANE) 2,4 DICHLOROPHENOXYACHTIC ACID HEPTACH LORODIBENZODIOXIN OCTACH CORODIBENZODIOXIN RESIDUE, TOT LOSS ON IGNI. AMMONIUM, TOTAL, FILT REAC. NITRATES, TOTAL, FILT REAC. CHEMICAL, OXYGEN DEMAND NITROGEN-TOT-KJEL, UNP.TOT (4.OG(H+(CONCN)) MOLYBIXENUM, UNPILT. TOTAL. PHOSPHORUS, UNFILT. TOTAL ARSHNIC, UNHILL, TOTAL.
CADMIUM, UNFILL, TOTAL.
COBAL, UNFILL, TOTAL.
CORPSR, UNFILL, TOTAL.
MERCURY, UNFILL, TOTAL. SILVER,UNFILT.TOTAL ALUMIHUM,UNFILT.TOTAL SELENICM, UNFILT TOTAL STRONTHUM, UNFILT, TOTAL CONTAM: CONTAMINANT NAME NICKEL, UNPILIT TOTAL HEPTACHLOREPOXIDE JEAD, UNITET TOTAL ALPHA-CHILORDANE ANC, UNITITIOTAL PESTICIDES, HERBICIDES, PCBS MENOLICS (4AAP) M-CRESOL, NTROBENZENE NAPITHALIENE RESIDUE TOTAL ENDOSULPANT PCB, TOTAL DIOXINS AND FURANS CONVENTIONALS PMMCRE PMNITB PNNAPH COD METALS PHINOL.
PRUT
RST
RSTLOI
NNIFTIR P97CDD PIBHCB PIHEPE PIPCBT PIALDR PIBHCA PIBHCA NAN CLUT HIGHT MOUT AGUT ASUT COUT CRUT CRUT CRUT SRUT SRUT

CONTAM	CONTAM: CONTAMINANT NAME	UNITSQA'QC PLANT (DRY CODEMIN, CONC WEIGHT) S DL	MIN. CONC.	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT PET.	PLANT % FREQ. DET.	GLOBAL.	GLOBAL	GLORAL S. FREQ. DET.	GEO. MEAN	GLOBAL GEO. MEAN	FLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL A PREV.
0	THE PERSON NAMED ASSESSED.		20.20	3			3		:		1	1			
2012	CAMMA-CHEARDANE	a system	36.10	20.10	7 (		20.0	10	60	37.3	06.67	0000	00:	744	30.0
PIDIE.	DIFLURIN	7 93/30	239.70	259.70	2	-	20.0	31	07	39.5	23.40	7.20	30.16	3.10	20.0
PIDMOT	MPTHOXYCHLOR	" sys"	538.00	538.00	2	-	20.0	31	61	37.3	75.50	45.80	16.07	5.15	1.1
PIHND2	ENDOSCI J'AN II	ug/kg 3	37.10	37.10	2	_	20.0	51	9	11.8	8.80	4.20	7.62	2.38	17.7
PIENDR	FNORIN	ughe 3	4.20	4.20	7	_	90.0	51	œ	15.7	8.80	4.20	2.86	2.21	23.5
PIENDS	ENDOSULIZAN SULPHATE	ug/kg 3	296.80	296.80	2	-	90.0	51	9	11.8	50.20	18.60	12.33	2.80	17.7
PHHEPT	HEPTACHLOR	ug/kg 3	8.50	8.50	2	-	0.08	51	7	13.7	12.60	4.50	1.74	2.83	902
PIPPIN	PP-DDE	us/kg 1	14.90	14.90	2	-	90.0	51	22	43.1	16.60	7.30	1.17	2.31	52.9
X2124	1,2,4 TRICTOLOROBENZISNE	ug/kg 3	14.90	14.90	2	-	90.0	51	17	33.3	23.50	9.30	1.91	4.06	41.2
X2HCB	HEXACHI.OROBENZENE	ug/kg 2	6.40	6.40	2	-,	90.0	51	17	33.3	10.90	5.60	2.13	2.65	38.2
VOLATIL	VOLATILE ORGANIC COMPOUNDS														
<b>B2MPXY</b>	M., AND P.X YI JINES	ug/kg 1	7050.10	9978.80	2	2	100.0	51	16	31.4	8387.60	1345,90	1.28	3.86	41.2
BZEBNZ	HITHYL BENZENE (CSITIO)	ug/kg 1	4267.20	4267.20	2	-	90.0	51	10	9.61	1346.10	890.70	5.11	2.60	26.5
B20XYI.	O-XYLENE (CRITIO)	ug/hg 1	5194.80	5194.80	2	-	90.0	51	80	18.7	1485.20	841.60	5,88	2.51	23.5
XIGHO	CHOROPORM (CHCL.3.)	ne/ke 1		1688.30	2	-	0.08	25	12	23.5	846.70	1225.10	2.65	4.34	35.3

SAMPLING TYPE: Treated Sludge

SAMPLE FORM : Dry Weight

GLORAL. 9000 97.1 97.1 97.1 97.1 97.1 88.7 88.7 0.00 0. 8.8 GLOBAL SPREAD FACTOR 2016 3.8 3.8 PLANT SPREAD FACTOR 0.00 1.05 1.10 1.04 1.04 85.58 1.43 16.48 3.80 1.52 1.55 1.17 1.17 55.91 6.38 1.71 1.71 GLOBAL GEO. MEAN 37.78 540 1047 333.06 732.24 732.24 732.24 72.95 196.62 240.93 988.90 988.90 5281.80 2.00 38494.12 7.17 43.05 76638.67 80434.04 43379.33 1050218.80 14891.61 60.9 61.31 856769.73 466770.39 GEO. MEAN 1904.30 42.77 42.77 1125.59 1125.59 10.25 337.27 4.89 262.18 19.23 14.11 57.90 57.90 57.90 57.90 57.20 GLOBAL. S. FREQ. DET. 83.7 83.7 100.0 30.0 22.0 44.0 42.0 32.0 38.0 12.0 12.0 90.0 53.1 GLOBAL DET 3 5 2 2 2223012 8644468 SAMPLES 4884848488888 200 22222222222 8644688 PLANT S FREQ. DET. 80.0 90.0 PLANT PET. SAMPLES PLANT PLANT MAX. DET. 1050218.80 15399.99 6.50 85.90 16094159.99 479900.00 226177.00 77.83 846.58 86.26 1021.05 1206.70 7.50 333.40 341.19 5.21 314.16 2063.77 35.48 305.00 148.90 8.10 50.70 50.60 621.70 143.10 69.90 81.30 4.70 CONC. 178578.90 UNITSQA/QC PLANT (DRY CODE MIN. CONC. WEIGHT) > DL. 14400.02 5.70 43.76 45609.98 454000.00 114151.00 178578.90 22.50 22.50 27.30 4.70 66.00 66.00 66.1.70 66.1.70 66.90 81.30 4.70 60.07 7635.29 7.75 7.75 7.75 7.85 1000.21 333 278.13 335.48 4.88 1474.43 35.48 5.30 \$\$\$\$\$\$ \*\*\*\*\* 33 × . 4444444444 MASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS ALPIA-BHC() (EXCHLORCYCL) (EXANE)
BETA-BHC () (EXCHLORCYCL) (EXANE)
METHOXYCH OR OCTACH ORODIBENZODIOXIN HEPTACH ORODIBENZODIOXIN CHEMICAL OXYGEN DEMAND NITROGEN-TOT-KJEL,UNF.TOT (\*LOG(H+(CONCN)) MOLYBDENUM, UNFILT. TOTAL PHENOLICS (4AAP)
PHOSPHORUS, UNFILT. TOTAL RESIDUE, TOTAL, RESIDUE, TOT LOSS ON IGNI. SILVER, UNFILT. TOTAL.
ALUMINUM, UNFILT. TOTAL.
ARSENIC, UNFILT. TOTAL. COPPER, UNFIL, TOTAL
MERCURY, UNFIL, TOTAL
NICKEL, UNFIL, TOTAL
LEAD, UNFIL, TOTAL STRONTIUM, UNFILT TOTAL 1,24-TRICH OROBENZENE HEXACHLOROBENZENE PCNB CHROMIUM, UNFILT: TOTAL CADMIUM, UNPIL, T. TOTAL. SELENIUM UNFILT TOTAL CONTAM: CONTAMINANT NAME COBALT, UNFILT. TOTAL HEPTACHLOREPOXIDE PP-DDE ZINC, UNHILT TOTAL PESTICIDES, HERBICIDES, PCBS ENDOSULFAN I ENDOSULFAN II ENDRIN M-CRESOL. NITROBENZENE HOXINS AND FURANS CONVENTIONALS COD NNTKUR PH PHUT RST RST PMMCRE METALS X2124 X21CB POPCNB P1BHCA P1BHCB P1END1 P1END2 P98CDD PHHEPE NANT AGUT ALUT ASUT COUT COUT HIGUT NIUT PBUT SEUT SEUT SEUT SEUT SOUT COUT

	PLANT NA	PLANT NAME: Mississauga PLANT TYPE: Secondary	3	akeview)					SAMPL	SAMPLING TYPE: Treated Sludge SAMPLE FORM: Dry Weight	: Trests	eight			
CONTAM-	CONTAMINANT NAME	UNITSQA/QC PLANT (DRY CODE MIN. CON WEIGHT) > DL	t3	MAX. DET. CONC.	PLANT SAMPLES	MANT PET.	PLANT PREQ. DET.	GLOBAL I SAMPLES	GLOBAL.	GLOBAL. S. FREQ. DET.	PLANT GRO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & FREV.
PIPCRT	K'B TOTAL	ue/ke 2	1210.30	1210.30	2	-	90.0	50	32	0.39	163.20	114.10	17.01	4.58	67.7
P12AD	24-DICHLOROPHINOXYACKTIC ACID	ne/kg 3	25.10	25.10	2	-	90.0	20	25	90.0	16.60	75.00	1.79	5.81	64.7
XIIICCP	HEXACIO OROCYCLOPHNI ADIENE	up/kg 3	297.20	297.20	2	-	90.0	90		16.0	98.60	34.20	10.70	2.76	23.5
VOLATILA	VOLATHE ORGANIC COMPOUNDS														
BZHBNZ	HTHYL BENZENE (CSH10)	us/kg 1	1630.00	500104.20	2	8	100.0	80	14	28.0	28551.20	606.50	57.34	9:39	32.4
R 2MPX Y	M. AND P.XYLENES	ue/ke	_	416961.90	2	2	100.0	90	15	30.0	00.66119	816.00	NS.09	17.	32.4
B 20X YL X I CT II O	O-XYLENE (CHFIO) CHIJOROPORM (CHCL3.)	\$ \$	748.90	748.90	7 7		30.0	200	12	24.0	176.70	441.70	7.71	4.33	35.3

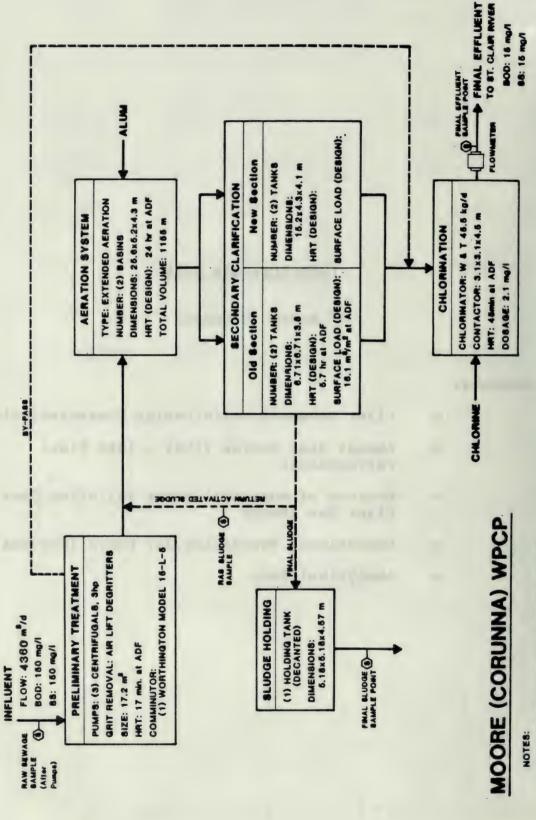
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## Sub-Appendix A-16

## Moore (Corunna)

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Moore (Corunna)
- o Analytical Data



1. Effluent flow is messured by a Millitronice ultrasonic flow detector in a paraball flume.

CORUNNA P.V. PLANT Extended Aeration Phosphorus Removal - Continuous Capacity - 4.546 18(3) m3/day

PARAMETER	1981	1982	1983	1984	1985	MEAN ANNUAL AVERAGE
Avg. Daily Flow (1888 m3/day)	2.11	1.98	1.98	1.43	2.85	2.05
BOD5 - Influent (mg/L)	95.55	133.65	181.52	119.25	124.5B	114.83
BODS - Effluent (mg/L)	4.51	5.82	4.47	7.48	9.12	6.36
Annual BODS Significantly		i	i	i	i	i
Different from Mean Annual Average BODS?	×	N	N	: N	i	i
HAMMUAL HVERAGE BODS?					1	1 1
TSS - Influent (mg/L)	187.81	159.38	93.25	115.25	138.33	122.12
TSS - Effluent (mg/L)	11.58	9,17	18.48	8.82	9.56	9.89
Annual TSS Significantly Different from Mean		1	1		1	1 2
Annual Average TSS?	N	i N	1 N	1 X	1 #	1
* B					1	1
Total P - Influent (mg/L)	6.76 8.93	6.71 8.61	6.98	6.36	7.86 8.85	6.95
Total P - Effluent (mg/L) Annual TP Significantly	! 6.73	1 0.01	9.70	1 0.07	. 6.00	9.85
Different from Mean		1	!	!		1
Annual Average TP?	N N	. N	N	. N	, N	1
TP in Compliance?	Y	i y	1 Y	; Y	Y	} Y
•	!	1	1	1	1	1

I.D. - Insufficient Data

## . SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE  DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	CORUNNA P.V. WPCP 110000481 EXTENDED AERATION PHOSPHORUS REMOVAL CONTINUOUS 4.546 2.108 3405
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	0.5
COMMERCIAL SOURCES (%) (Population x 0.0757)	12
RESIDENTIAL SOURCES (%) (Population x 0.175)	28
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from industrial, commercial and residential sources)	59
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	9 3 8
DESCRIPTION OF THE TOP 5 INDUSTRIES (BASED ON WATER USE DATA)	Annual Control of the
DESCRIPTION OF THE PROPERTY OF	SIC # OF COMPANIES
INSTRUMENT AND METALS PRODUCT METAL FINISHING MISC. FABRICATED METALS PRODUCTS CHEMICALS/CHEMICAL PREPARATION	3811-3873 1 3411-3489 1 3490-3499 1 2899-2899 1

PLASTICS, RESINS, SYNTHETIC FIBERS MFG 2821-2824

## OPERATIONAL EVALUATION FOR: MOORE TOWNSHIP (CORRUNA) WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: February 7,1987
SAMPLING SEASON: Winter (Cold Weather)
DESIGN AVS FLOW: 4360 m3/d

11								:	
11	PRE-SAMPLING PERIOD								
11	PARAMETER	DAY 1	DAY 2	DAY 3 1	DAY 4 :	DAY 5	DAY 6	DAY 7	
11	RAW SEWAGE FLOW	2,172	2,248	1,999			1,977		
1 t 1 p 1 p 2 p	% of Design Flow	49.822	51.56%	45.85%	45.07%	45.85%	45.34%	44.502	
	Influent BOD (mg/L) Primary BOD (mg/L)			162.0		; ;	1		
2 2 8 8 9 8	Secondary BOD (mg/L) Z PRIMARY REMOVAL	1 1	* 1 2	6.0	3 3 2 2	9 3 8 8	2	1	
11	% SECONDARY REMOVAL	1	1	96.3	1	8 9	8	1	
	Influent SS (mg/L) Primary SS (mg/L)		:	162.0	:	1			
11	Secondary SS (mg/L) Z PRIMARY REMOVAL	1 1 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	10.0 :	5 1 9 1	1		1	
11	% SECONDARY REMOVAL	i i	i 	93.8	i t.	i.	i i		
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL			0.3	1	1	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
71	Influent TKN (mg/L) Primary TKN (mg/L)		!	47.5	1	!		;	
8 B 9 B 2 B 8 B	Secondary TKN (mg/L) I PRIMARY REMOVAL	2 8 2 9 2 9	2 2 2 2	1.4 1	2 1 9 3	1	1	*	
11	I SECONDARY REMOVAL	! !		97.1	1	1 1	1	1	
11	Influent Total P (mg/L) Primary Total P (mg/L)	3 9 9 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	9 8 8	8.3	1			1	
11	Secondary Total P (mg/L) % PRIMARY REMOVAL	1 2 1 2 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8 2 9	0.5 (	8 1 3	1		8 8 8	
11	I SECONDARY REMOVAL	1	1	94.5 1	- 1	3 3	2 1	1	

#### OPERATIONAL EVALUATION FOR: MOORE TOWNSHIP (CORRUNA) WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: February 7,1987 Winter (Cold Weather) SAMPLING SEASON:

DESIGN AVE FLOW: 4360 m3/d

11		*********		22222222			********	!!	
1 1 1 1		~~~~~~	PRE-SAMPLING PERIOD						
• •	RAMETER :	DAY 8 :	DAY 9 1	DAY 10	DAY 11 1	DAY 12   D		DAY 14 11	
[ ] = = = = = = = = = = = = = = = = = =	:	!	: :	!		!		; ; ======= ; ;	
II RAW SEWAGE	FLOW	1,985	1,969	1,942	1,867	. 1,970	1,926	1,916	
## % of Design	Flow I	45.5321	45.16%	44.5421	42.82%	45.18%	44.17%	43.94%;	
11	TELL	1	1	1	- 1	+	1	11	
II Influent BU			113.0		1		1	: : : : : : : : : : : : : : : : : : :	
Secondary I	30D (mg/L) :		9.0	1	3 1 1	1	1	11	
11 Z SECONDAR			92.0	!				!	
II Influent S			161.0	!	1	1		2 9 2 9 2 9	
Secondary !	SS (ag/L)		10.0	!	* *		1	11	
11 Z SECONDAR			93.8	· · · · · · · · · · · · · · · · · · ·	·		; ;	!! 	
I Influent NI Primary NH Secondary Z PRIMARY Z SECONDAR	4 (mg/L) : 4H4 (mg/L) : REMOVAL :		0.5	1				1	
ii Influent Ti		;	49.5	;- 	1	; 		:;; ;; ;;	
!! Primary TK! !! Secondary !! Z PRIMARY!	TKN (mg/L)		2.6	1	à à à à à à à à à à à à à à à à à à à		1	1 2	
11 Z SECONDAR			94.7	;				: : : : : : : : : : : : : : : : : : :	
II Influent T	otal P (mg/L) : tal P (mg/L) :		7.1		1			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	Total P (mg/L) !		0.6	1	1			11	
11 % SECONDAR		1	91.8	1	1		i	11	

#### MODRE TOWNSHIP (CORRUNA) WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING:

February 7,1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 4360 m3/d

1				SAMP	LING PERIO	D		
2	PARAMETER	DAY 15	DAY 16 1	DAY 17	DAY 18	DAY 19 1	DAY 20 1	DAY 21
==			:	:	:		::::::::::::::::::::::::::::::::::::::	
	RAW SEWASE FLOW	2,327	1,869 ;	2,112 :	1,990	1,965	2,148 :	2,038
	% of Design Flow	53.37%	42.87%	48.44%;	45.64%	45.07%	49.2711	46.747
	Influent BOD (mg/L)			120.0				
1	Primary BOD (mg/L) Secondary BOD (mg/L) Z PRIMARY REMOVAL		8	7.0	3 3 3	1	1	
	% SECONDARY REMOVAL			94.2				******
1 1	Influent SS (mg/L) Primary SS (mg/L)		1	198.0	3	3 1	1	
1 2 2	Secondary SS (mg/L) 2 PRIMARY REMOVAL	1 1	1 2 3	12.0	3 3	1 2 2	£ 9	
	% SECONDARY REMOVAL			93.9				
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL		2 3 5 7 7 8	1.5		2 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	3 3 3 3 3 3 3 3 3 3	
	Influent TKN (mg/L) Primary TKN (mg/L)		1	50.5		3 1 2 3	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
	Secondary TKN (mg/L) Z PRIMARY REMOVAL	8 8 8 8 9 9	3 3 9 9	2.7 1		8 8 3 3	3 1 8	
   }	% SECONDARY REMOVAL	 		94.7 :				
	Influent Total P (mg/L) Primary Total P (mg/L)	3 3 0	8 8	7.8			1	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Secondary Total P (mg/L) Z PRIMARY REMOVAL	1 3 0 1 2 1	2 2 8	0.4		8 9 9	2 2 2	
2 2	% SECONDARY REMOVAL	3 2	3 3	94.9 1	1	1	1	

GLOBAL % PREV. GLOBAL SPREAD FACTOR PLANT SPREAD FACTOR 22.39 22.39 115.37 25.44 6.90 5.18 126.88 0.05 SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight GEO. MEAN 255.92 469.04 43.14 23.63 37.03 6.69 8.57 211.57 0.17 GLOBAL % FREQ. DET. 99.6 100.0 100.0 100.0 100.0 100.0 100.0 GLOBAL DET 256 271 271 273 275 275 275 266 266 28 28 28 GLOBAL SAMPLES PLANT S FREQ. DET. PLANT # DET. SAMPLES PLANT UNITS QC PLANT PLANT
CODE MIN. CONC. MAX. DET.

> . DL CONC. 644.00 59.40 59.40 678 678 0.45 0.45 80.00 210.00 350.00 20.00 PLANT NAME : Moore (Corunnal) 374.00 374.00 34.30 6.58 6.93 0.25 0.03 PLANT TYPE : Secondary 000000000 2222 CONTAM: CONTAMINANT NAME

INANI

94.6 18.9 18.9 46.0 37.8 40.5 16.2 97.1 97.1 100.0 10 78.4 100.0 100.0 100.0 100.0 124 214 9878797979 246 85.52 182 3.40 2.9 110.60 110.60 211.00 223 6.50 9.30 10.40 59.50 14.52 22.59 0.00 980.00 190.00 10.00 20.00 20.00 20.00 50.19 123.58 0.06 51.8 77.5 4.0 15.2 10.1 5.5 42.9 306 318 318 318 76 76 237 237 221228 12 118 275 276 276 276 276 276 276 276 276 274 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 00.00 00000000 20.0 116.40 220.00 10.00 0.00 90.09 290.00 80.00 170.00 10.00 10.00 10.00 10.00 26.50 0.03 3000.00 333333 22 33 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS GAMMA-BHCHEXCHLORCYCLHEXANE) 2,4-DICHLOROPHENOXYAGETIC ACID HEXACHLOROBENZENE PCB, TOTAL, 24.5-TRICLORPHENOXYACETIC ACID SILVEX BOD, 5 DAY -TOTAL DEMAND CHEMICAL, OX YORN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL FILT REAC. NITROGEN-TOT-KJEL, UNF. TOT. RESIDUE, PARTICULATE NITRATES, TOTAL PILT. REAC. NITRITE FILT. REACT. PHOSPHORUS, UNFILT. TOTAL COPPER, UNFILT. TOTAL STRONTIUM, UNFILT. TOTAL ALUMINUM, UNPILT. TOTAL ZINC,UNFILT.TOTAL MERCURY,UNFILT.TOTAL CADMIUM,UNFILT.TOTAL CHROMIUM, UNPILT. TOTAL TRICHLOROETHYLENE THTRACHLOROETHYLENE VOLATILES ORGANIC COMPOUNDS COBALT, UNFILT. TOTAL SILVER, UNFILT.TOTAL LEAD, UNFILT. TOTAL PESTICIDES, HERBICIDES, PCBS (-LOG(H+(CONCN)) PHENOL. M-CRESOL CONVENTIONALS PMPHIEN PMPMCRE COD DOC NNHTHR NNTKUR PH PPUT RSP NNOTPR METALS XITRIC NNO2FR P1 BHCG P32AD X2HCB P1PCBT P32AST COUT COUT AGUT SRUT

	us 25	PLANT NAME:	TYP		Moore (Corunna) Secondary	la)					8 8	SAMPLING TYP SAMPLE FORM	(-)	: Final Effluer : Wet Weight	1 .			
CONTAM- INANT	CONTAMINANT NAME	CODI	0.0	QC STD. FOR CODE: SURFACE NATER	STD. REF.	PLANT MIN. CONC.	ANT PLANT CONC. MAX. DET. DL CONC.	PLANT # SAMPLES	PLANT PET.	PLANT S. FREQ. DET.	GLOBAL # SAMFLES	GLORAL # DET.	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.
CONVENTIONALS	IONALS																	
BODS COD DOC	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLYED ORGANIC CARBON	775				35.70 28.00 6.00	45.00 72.00 8.60	200	80 80 80	100.0	213	211	99.1 99.1 100.0	40.81	21.22 52.80 8.09	1.10	1.83	0.001
NNOZFR NNOTFR NNTKUR		333	000			13.80	16.00		N N N	100.0	220	194	88.2 83.0 100.0	15.16	233	1.06	5.95 7.75	4 4 9 6
PH RSP PPUT						9.60	13.20		i an an an	100.0	220	224	966	10.89	7.10	1.13	200	0001
MATHEM		2	0		•	0,40	1.10	) w1	1 14	40.0	223	204	516	60'0	3.90	624	869	1000
METALS																		
ALUT	ALUMINUM, UNPILT, TOTAL STRONTIUM, UNPILT, TOTAL	Nau Nau	00	75.00	ONT-MOR ONT-MOR	830.00	1300.00	• •	00	100.0	264	196	74.2	1000.00	340.90	1.19	3.72	96.4
TOPI	ZINC, UNFILT.TOTAL. MERCURY, UNFILT.TOTAL	22	00	30.00	ONT-MOE ONT-MOE	30.00	90.00	<b>°</b> °	10 m	100.0	267	262	2 8.1 2 4 4	0.03	53.30	1.18	248	100.0
CCNFUR	NICKEL, UNFILT, TOTAL, CYANIDE-FREE, UNFILT, REAC.	n n		5.00	ONT-MOB ONT-MOB	10.00	20.00	o v	7 -	33.3	257	171	0.40	10.00	1.30	3.61	3.60	85.7
500	CADMILIM, UNFILT, TOTAL, COBALT, UNFILT, TOTAL	ueA.		5.00	ONT-MOE NYS-STD	10.00	0.00	00		16.7	266	2 2	24.3	0.00	2.10	3.09	207	71.4
CRUT	CHROMIUM, UNFILT. TOTAL LEAD, UNFILT. TOTAL	22	00	100.00	ONT-MOB ONT-MOB	30.00	10.00	000	, prej prej	16.7	267	131	51.3 9.4	20.00	9.00	137	200	89.3
BASE NEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SUNDO																
РМВВР	BUTYLBENZYLPHIHALATE	u.M.	-	20.00	NYS-GUL	25.00	25.00	s	1	20.0	228	. 3	13	1.90	1.09	4.22	1.59	7.1
PESTICID	PESTICIDES, HERBICIDES, PCBS																	
P3MD P1BHCG P3MST P3MLV P1PCBT	24-DICHLOROPHENOXYAGITIC ACID GAMMA-BICCHEXCHLORCYCLIEXANE) 245-TRICLORPHENOXYAGITIC ACID 8LVEX PCB, TOTAL.	33333	мимии	4.00 0.06 0.00	ONT-MOB ONT-MOB	0.08 0.04 0.07 0.05	0.39 0.06 0.60 0.11	*****	****	80.0 80.0 80.0 60.0		71 151 22 22	78.0 69.2 11.0 10.1 4.0	0.15 0.01 0.05 0.05	0.08 0.03 0.03 0.03	1.97 2.76 3.50 2.05 1.36	4.71 2.48 2.27 1.83 1.40	100.0 86.4 42.9 50.0
VOLATIL	VOLATILES ORGANIC COMPOUNDS																	
XITETR	TETRACHLOROETHYLENE CHLOROFORM	ue A		0.70	NYS-GUL NYS-STD	14.00	6.60	es es	2 -	100.0	224	18	8.0	29.77	1.18	204	1.93	32.1

PLANT NAME: Moore (Corunna)
PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight

	1			1150			
GLOBAL % PREV.		100.0 100.0 100.0 100.0 100.0 100.0	84.4 100.0 97.1	73.5 93.3 100.0 100.0 100.0	*		67.7 82.3 38.2
GLOBAL SPREAD FACTOR	137	3.19 4.59 2.21 2.29 1.10 1.11 1.81	2.51	2.13 2.13 2.19 2.39 2.39	2.25		2.669 2.650 2.650
PLANT SPREAD FACTOR	12"	0.0000000000000000000000000000000000000	0.00	8888888	0.00		888
GLOBAL GEO. MEAN		892221.45 5911.32 25.44 36897.85 6.03 20347.70 32783.51 20803.05	30.17	9.29 301.43 606.31 39.17 231.70 905.39	3445.60		8.90 93.20 5.60
PLANT GEO. MEAN		73254.09 3684.99 37.15 61367.01 6.95 68202.08 6730.00 4370.00	25.26 57949.48 7.43	34.18 71.32 322.44 50.52 4.46 138.19 401.19	35958.40		59.40 86.20 44.60
GLOBAL FREQ. DET.	71	97.9 97.9 88.6 100.0 100.0 100.0 100.0	K8.9 100.0 98.0	98.0 100.0 100.0 100.0 100.0	7.8		25 K 25 K 25 K 25 K 25 K 25 K 25 K 25 K
GLOBAL # DET	113	\$ 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	5 5 5 6	8844422	/0.		38 38 17
GLOBAL #		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	51.5	2 2 2 2 2 2 2 2	5		2 2 2
PLANT SFREQ. DET.		100.0 100.0 100.0 100.0 100.0 100.0	100.0	100.0 100.0 100.0 100.0 100.0	100.0		100.0
PLANT # DET.							
PLANT # SAMPLES	13				M -		222774
PLANT MAX. DET. CONC.		973254.09 3684.99 37.115 61367.01 6.95 68202.08 6730.00	25.26 57949.48 7.43	34.18 71.32 322.44 50.52 4.46 138.19 401.19	35958,40		59.40 86.20 44.60
PLANT AIN. CONC.		973254.09 9 3684.99 37.13 61367.01 6.95 68202.08 6730.00 4370.00		34.18 71.32 32.44 50.52 4.46 138.19 401.19	35958.40		59.40 86.20 44.60
UNITSQA/QC. PLANT (DRY CODE MIN. CONC. MAX. DET. WEIGHT) > DL CONC.		mg/kg 0		mg/s 0 mg	MPOUNDS ug/kg 1		ANE) ug/kg 2 ID ug/kg 3 ug/kg 2
CONTAMINANT NAME	IONALS	CHEMICAL, OXYGEN DEMAND AMMONIUM, TOTAL, FILT, REAC. NITRATES, TOTAL, FILT, REAC. INTROGEN-TOTALEL, UNF. TOT (1, OCH+CONCN) PHOSPIORUS, UNFILT, TOTAL. RESIDUE, TOTAL.	SILVIER, UNFILT. TOTAL. ALLUMINI MUNFILT. TOTAL. ARSENIC, UNFILT. TOTAL.	CORALT LINEBIL TOTAL CIRCOMIUM LINEBIL TOTAL CORPER, LUNEBIL TOTAL NICKEL, UNEBIL TOTAL SELENBIM, UNFBL TOTAL STRONTUM, UNFBL TOTAL ZINC, UNFBL TOTAL	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS  FMBBP BUTYLBENZYLMITHALATE ug/g	PESTICIDES, HERBICIDES, PCBS	GAMMA-BHC(HEXCHLORCYCLHEXANE) 19A6g 2.4 DICHLOROM HENOX YAGETIC ACID 19A6g HEXACHLOROHENZENE
CONTAM-	CONVENTIONALS	COD NNITER NNOTER NNTKUR PHI PRUT RST	METALS AGUT ALUT ASUT	COUT CRUT CCUT NICT SEUT SRUT	BASE NEU PMBBP	PESTICIDI	PIBIRCG P3240 X2ICB

SAMPLING TYPE: Treated Sludge SAMPLE FORM: Dry Weight

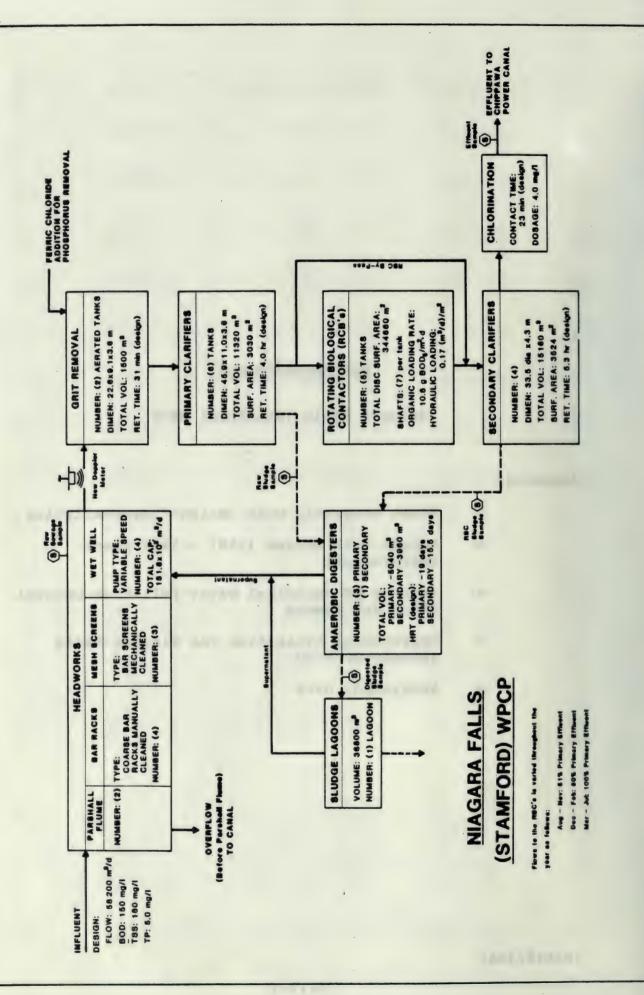
CONTAM. INANT	CONTAMINANT NAME	UNITSQA (DRY CO WEIGHT)	UNITSQA/QC PLANT (DRY CODEMIN, CONC. EIGHT) > DL	C. MAX. DET.	PLANT # SAMPLES	PLANT	PLANT & FREQ. DET.	GLOBAL.	GLOBAL	GLOBAL. % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO, MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL.
CONVENTIONALS	DNALS														
COD NNITTR NNOTTR NNTKUR PH PHNOL, PHUT PRST RST	CHEMICAL OXYGEN DEMAND AMMONIUM, TOTAL, FILT RIAC. NITRATES, TOTAL, FILT RIAC. HINGGEN-TOTALEJ, LINE TOT (J. OCCH.(CONCR)) PHENOLICS (AAAP) PHOSPHORUS, UNFILT, TOTAL. RESIDUE, TOTAL. RESIDUE, TOTAL.	mg/ks 0 mg/ks	2483375.96 5601.02 23.02 23.02 57544.76 6.37 6.05 4049.21 39100.00 26100.00	2483375.96 3601.02 23.02 27544.76 6.37 69.05 40409.21 39100.00 26100.00			100.0 100.0 100.0 100.0 100.0 100.0 100.0	8 5 5 5 5 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 22 22 4 4 4 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	100.0 100.0 88.5 100.0 100.0 100.0 100.0	2483375.96 560.02 25.02 25.02 57544.76 637 69.05 40409.21 39100.00 26100.00	208097.94 17658.28 42.66 38494.12 7.17 43.05 76638.67 80434.04 43379.33	888888888	4.65 2.29 2.29 1.77 1.09 3.14 6.91 3.23 3.23	100.0 100.0 100.0 100.0 100.0 100.0 100.0
METALS															
AGUT AGUT AGUT CRUT CRUT CRUT HGUT MOUT HGUT BAOT SHAUT SHAUT SHAUT SHAUT PRUT SAUT ZAUT PRUT PRUT PRUT PRUT PRUT PRUT PRUT PR	AGUT SILVERUNHER TTOTAL. mg/h ASSIT ALUMINUM, UNPILITOTAL. mg/h ASSIT ARSENC, UNPILITOTAL. mg/h CDUT CODMIUM, UNPILITOTAL. mg/h CREAT CORPER, UNPILITOTAL. mg/h HGUT COPPER, UNPILITOTAL. mg/h HGUT MOLY RDD-NUMITITOTAL. mg/h MOLY BDD-NUMITITOTAL. mg/h MULT NOTAL. MG/h SELF NEUTRAL AND ACID EXTRACTABLE COMPOUNDS BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS PESTICIDES, HERBICIDES, PCBS  PESTICIDES, HERBICIDES, PCBS		1662	2.30 69083.11 5.88 7.93 69.05 99.54 0.77 16.83 79.28 33.2 156.01 434.78			100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	4 8 8 5 8 8 8 8 5 8 8 8 8 8 8 8 8 8 8 8	4684234653	98.0 91.1 91.1 100.0 100.0 98.0 98.0 100.0 100.0 100.0	230 69053.71 7.93 69.05 379.54 0.77 14.83 79.28 3.32 15.60 4.34.78	37.78 5.40 10.47 333.06 732.24 5.24 196.62 2.67 2.40.93 988.90	888888888888888888888888888888888888888	2 2 3 3 2 6 6 7 6 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6	100.0 100.0 97.1 90.3 100.0 100.0 97.1 100.0 100.0 100.0
P18HCG P1CHIA P3245T P324D X2HCB	CAMMA BECHEKCH ORCYCLHEKANE) WA'KE MATHILCHEORDANE WA'KE 24-DICHEOROPHENOXYACETIC ACID WA'KE 24-DICHEOROPHENOXYACETIC ACID WA'KE HEKACHLOROBENZENE	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	53.0 5.10 28.10 11.30 46.00	15.30 5.10 28.10 11.30 46.00		, , , , , , , , , , , , , , , , , , ,	100.0	2 2 2 2 2	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	45.0 50.0 60.0 75.0 75.0	28.10 28.10 11.30 46.00	84.40 75.00 7.00	8 8 8 8 8	2.41 3.13 5.81 2.96	28.24.28.2 20.01.02.02.02.02.02.02.02.02.02.02.02.02.02.

# Sub-Appendix A-17

# Niagara Falls (Stamford) WPCP

### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- Operational Evaluation for Niagara Falls (Stamford) WPCP
- o Analytical Data



STAMFORD WPCP Primary Phosphorus Removal - Continuous Capacity - 58.189 18(3) m3/day

PARAMETER	1 	1982	1983	1984	1985	5 YEAR AVERAGE 81-85
Avg. Daily Flow (1888 m3/day)	44.57	51.86	56.24	56.15	57.06	53.18
BOD5 - Influent (mg/L) BOD5 - Effluent (mg/L) Annual BOD5 Significantly	182.88 27.88	191.88	188.88	86.42	99.88 31.32	95.68
Different from Mean Annual Average BOD5?	I.D.	1.0.	1.0.	1.D.	i I.D.	
TSS - Influent (ag/L) TSS - Effluent (ag/L)	164.88 26.88	179.88	173.89	187.42 29.67	99.67	168.62 25.49
Annual TSS Significantly Different from Mean Annual Average TSS?	I.D.	1.D.	1.D.	1.0.	I.D.	0 0 0 0 0
Total P - Influent (mg/L) Total P - Effluent (mg/L) Annual TP Significantly	4.88	4.48	5.38	4.37 8.63	3.14 8.46	4.48
Different from Mean Annual Average TP? TP in Compliance?	I.D.	I.D.	1.D.	I.D.	1.D.	Y

I.D. - Insufficient Data

# SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE	STAMFORD ( NIAGARA FALLS ) WPCP 120001363 PRIMARY
DECICE CADACTER (1000 2/4)	PHOSPHORUS REMOVAL CONTINUOUS
DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d)	58.189 56.706
POPULATION SERVED	67835
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	18
COMMERCIAL SOURCES (%) (Population x 0.0757)	9
RESIDENTIAL SOURCES (%)	
(Population x 0.175)	21
UNACCOUNTED FOR, INCL. INFILTRATIO (100-% Contributed from	N 52
industrial, commercial and residential sources)	
PROFILE OF INDUSTRIES IN CATCHMENT	
TOTAL NO OF INDUSTRIES	152
INDUSTRIES WITH WATER NO OF SIC CATEGORIES	107 42
HO OF DIO CHILICONIED	74

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	sic	NUMBER OF COMPANIES
STONE, CLAY MINERAL PRODUCTS	3200-329	9 9
FRUIT AND VEGETABLES	2032-203	8 4
FERTILIZER MFG	2873-287	5 1
BEVERAGES	2082-208	7 2
PHOSPHATE MFG	2819-281	9 1

# NIASARA FALLS MPCP

TREATMENT FACILITY: Other (RBC's)
PERIOD ENDING: March 29, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 58,200 m3/d

11				PRE-SAM	PLING PERI	OD		
11		DAY 1 :						
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	RAN SENAGE FLOW	53,485	45,875	46,852	45,784	•	44,097	42,279
	% of Design Flow	91.90%	78.82%		78.67%	78.89%		72.64%
11	Influent BOD (mg/L)						40.0	1
1 * 1 * 1 * 1 * 1 * 1 * 1 * 1 * 1 * 1 *	Primary BOD (mg/L) Secondary BOD (mg/L) 1 PRIMARY REMOVAL	8 3 8	1	8 8	1	1	29.0 : 10.0 : 27.5 :	3 3 5 1
11	% SECONDARY REHOVAL	1	1	1	1	1	75.0 1	!
111	Influent SS (mg/L) :	56.0	56.0 : 41.0 :	66.0	128.0 :	108.0	97.0	56.0 : 47.0 :
2 1 F 3	Secondary SS (mg/L)	13.0	19.0 :	19.0	18.0 :	13.0 4	9.0 :	11.0 :
11-	I PRIMARY REMOVAL I SECONDARY REMOVAL	76.8	26.8 1	25.8 † 71.2 †	85.9	48.1 : 88.0 :	46.4 i 90.7 i	16.1   80.4
8 8 8 8 8 8 8 8	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L)		2 2 2	8	1	2 0	3 3 0	1 1 1 1
	I PRIMARY REMOVAL I SECONDARY REMOVAL	1	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	3 3	2 2 2 3	0 0 0 0	1	: :
11	Influent TKN (mg/L) Primary TKN (mg/L)	9 9 8	2 2 2 2	8 8 8	8	8 8	3 1 1	1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Secondary TKN (ag/L) Z PRIMARY REMOVAL	3	8 9 8 3	1	2 5 8	8 8 8	2 5 3 3	1
11-	% SECONDARY REMOVAL							
11	Influent Total P (mg/L)		1	i	i	1	4.90 1	2 2
11	Primary Total P (mg/L)	1	3	1	1	1	2.96 1	1
11	Secondary Total P (eg/L)		1	-		1	1.04	1
11	7 PRIMARY REMOVAL 7 SECONDARY REMOVAL		1	i		1	39.59 1	1
11	& SECONDART REDUVAL	i .		i	i	ì	78.78 :	i

# NIAGARA FALLS WPCP

TREATMENT FACILITY: Other (RBC's)

PERIOD ENDING: Ma

March 29, 1987 Winter (Cold Weather)

SAMPLING SEASON: DESIGN AVG FLOW:

58,200 m3/d

11	***************************************		*********	PRE-SAI	MPLING PER	10D	*********	======================================
11	PARAMETER :	DAY 8	DAY 9 1	DAY 10 !			DAY 13	DAY 14
11=								
11	RAW SEWAGE FLOW	44,552	43,642 :	43,188	40,915 :	43,961	41,824 :	40,915
2 1 1 1 1 1 1 1 1 1	% of Design Flow	76.551	74.9921	74.2121	70.302	75.53 <b>2</b> 1	71.86%	70.302
	Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL	1					; ; ;	
	Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL	95.0 1 42.0 1 13.0 1 55.79 1 86.32 1	84.0 : 59.0 : 6.0 : 29.76 : 92.86 :		119.0   43.0   13.0   63.87   89.08		10.0 1 63.69 1	121.0 42.0 13.0 65.29 89.26
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL					; ; ;	 	
	Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		1	 			
	Influent Total P (mg/L) : Primary Total P (mg/L) : Secondary Total P (mg/L) : Z PRIMARY REMOVAL : Z SECONDARY REMOVAL :	1				, , ,	4.54   3.65   0.95   19.60   79.07	

# NIASARA FALLS WPCP

TREATMENT FACILITY: Other (RBC's)
PERIOD ENDING: March 29, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 58,200 m3/d

11									:==:
11				SAMP	LING PERIO	D			3 3
11	PARAMETER	BAV IS I	DAY 16 :	DAY 17 2	DAV 10 1	DAV 10	DAY 20	1 BAV 21	!!
11									11
11		!		!				!	11
11	RAW SEWAGE FLOW	41.569	41,179	72.737	47.734 :	42.597			2 2
11	NAM SCHOOL I LOW	71,007			17,701 1	724011		!	11
11	1 of Design Flow		70.752		82.027	73.192		1	11
11	2 2. 20214		1	1	1				11
11									!!
11	Influent BOD (mg/L)		1	i i	1			1	1 1
3 3	Primary BOD (mg/L)		1	1	8			1	11
11	Secondary BOD (mg/L)			1	3 9			1	2 2
11	I PRIMARY REMOVAL		1	1	1			1	1 1
11	I SECONDARY REMOVAL	1	2 1	8 9	2 1			1	1 I
11-								·	;;
11	Influent SS (mg/L)	98.0		206.0				1	3 3 1 1
11		51.0						2 2	1 1
11		13.0		5.0 :				1	1 1
- 1 1	W I HATHMIT HEHEVILL	47.96			66.30			1	11
F 1	I SECONDARY REMOVAL	86.73	90.10	97.57	93.48 :	84.38		1	11
11-	* /1 / AUG / U 1				;				-11
11	Influent NH4 (ag/L)		5	i	i				- 11
11	Primary NH4 (mg/L) Secondary NH4 (mg/L)		i	i	i			i	11
11	I PRIMARY REMOVAL			1	1			1	- 11
11	I SECONDARY REMOVAL	1			3 2			1	11
11-	A DECUMENT REMOVAL	!	!	!	!		! !	!	-11
11	Influent TKN (ag/L)			1	;			1	11
11	Primary TKN (mg/L)				:			1	11
11	Secondary TKN (mg/L)								11
11	7 PRIMARY REMOVAL		1	1				1	- 11
8 8 9 8	I SECONDARY REMOVAL			1	1			1	11
11-									- 1 1
1 2	Influent Total P (mg/L)	1	1	1	!	1		1	11
2 2 2 1	Primary Total P (mg/L)	1	1	1 2	1 1			1	1 2
1 1	Secondary Total P (mg/L)	8	1	1 1	1 1	1			11
5 5	I PRIMARY REMOVAL	1	1	1	2 1			1	1 1
11	Z SECONDARY REHOVAL	9		1	1			3	11

# NIABARA FALLS WPCP

TREATMENT FACILITY: Other (RBC's)

PERIOD ENDING:

May 29, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AV6 FLOW: 58,200 m3/d

				PRE-SAN	PLING PER	100		
	PARAMETER :		DAY 2 !			DAY 5 1		
11	RAW SEWAGE FLOW	47,848 1	44,824 1	45,461 1	55,917 :	60,140 :	48,116	46,766
3 4	% of Design Flow	82.21%	77.021	78.112	96.0821	103.332	82.67%	80.352
	Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL						24.0   20.0   17.0   16.7   29.2	
	Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL	125.0   59.0   11.0   52.8   91.2	110.0 { 57.0 } 13.0 ; 48.2 ;	70.0 : 32.0 : 10.0 : 54.3 : 85.7 :	129.0   64.0   12.0   50.4   90.7	137.0   48.0   27.0   65.0   80.3	149.0 { 51.0   13.0   65.8   91.3	98.0 51.0 11.0 48.0 88.8
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL					: :	1	
	Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL			1			1	
	Influent Total P (mg/L) : Primary Total P (mg/L) : Secondary Total P (mg/L) : Z PRIMARY REMOVAL : Z SECONDARY REMOVAL :				        		4.22   2.82   0.51   33.18   87.91	

# NIABARA FALLS MPCP

TREATHENT FACILITY: Other (RBC's)
PERIOD ENDING: May 29, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: 58,200 #3/d

				PRE-SA	MPLING PER	100		
1		DAY 8 :						DAY 14
==	:	:	:	:	;	1	:	
	RAN SEWAGE FLOW	55,226 1	46,884 :	46,652 :	45,979 ;	61,709	50,002 :	47,784
	% of Design Flow	94.891	80.561	80.161		106.031		82.101
	Influent BOD (mg/L)						42.0 ;	
	Primary BOD (mg/L)			1			37.0 1	
	Secondary BOD (mg/L)	1	1		1	1	19.0 :	
	Z PRIMARY REMOVAL	8	1	1	1	1	11.9 ;	
	% SECONDARY REMOVAL :	1	1	1	1	1	54.8 1	
	Influent SS (mg/L)	137.0	129.0	101.0	87.0	262.0		78.0
	Primary SS (mg/L)	39.0 1	50.0 1					56.0
	Secondary SS (ag/L)	13.0 ;	18.0					
	I PRIMARY REMOVAL	71.5	61.2					
	% SECONDARY REMOVAL	90.5 1	86.0 1					82.1
	Influent NH4 (mg/L) :	1	2 2	1	9	1	3 1	
	Primary NH4 (mg/L) :	1	1	1	1	1	2	
	Secondary NH4 (mg/L) :	1	8	3 8	1	1	8 3	
	I PRIMARY REMOVAL	1	1 1	# 1	1	8 8	8 8	
	Z SECONDARY REMOVAL	1	1	1	9	!	8 9	
	Influent TKN (mg/L)							
	Primary TKN (mg/L)						!	
	Secondary TKN (mg/L)		:	1		:		
	I PRIMARY REMOVAL	1				:	1	
	Z SECONDARY REMOVAL	1	1	1			:	
1	Influent Total P (mg/L) :	1	9 8	1	2	1	5.00 :	
	Primary Total P (mg/L) {	1	1	1 1	1 1	8 1	3.42 1	
	Secondary Total P (ag/L) :	3 9		1	3 8	1	0.97 :	
	% PRIMARY REMOVAL	1	3 9	2 8	1 1	3 1	31.60 1	
1	I SECONDARY REMOVAL :	1	1	1	1	2 3	80.60 :	

# NIAGARA FALLS WPCP

TREATMENT FACILITY: Other (RBC's)
PERIOD ENDING: May 29, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: 58,200 m3/d

			SAMP	LING PERIO	D	
	DAY 15		DAY 17	DAY 18 :		
						1
RAW SEWAGE FLOW	48,948	45,543	49,061	46,443	46,747	
% of Design Flow	84.107	78.257	84.30%	79.80%	80.321	
Influent BOD (mg/L)	 			;	 	
Primary BOD (mg/L) Secondary BOD (mg/L)		1	1	1	1	å 8 8
Z PRIMARY REMOVAL	1	- 1	:	1	1	1
% SECONDARY REMOVAL						<u> </u>
Influent SS (mg/L)	128.0	100.0		108.0	80.0	1
Primary SS (mg/L)	50.0 1	59.0 1				1
Secondary SS (mg/L)	14.0 1	22.0 1			13.0 1	
% PRIMARY REMOVAL	60.9 :	41.0 :				
% SECONDARY REMOVAL	89.1	78.0 !	76.3 :	88.0 :	83.8 ;	i
Influent NH4 (mg/L)				;		
Primary NH4 (mg/L)	1	;	1	2 9	1	1
Secondary NH4 (mg/L)	1	1	1	1	;	1
I PRIMARY REMOVAL		1	i	1	1	-
% SECONDARY REMOVAL				-;	1	ļ
Influent TKN (mg/L)		;	;	;	;	1
Primary TKN (mg/L)	1	;	1	;	1 1	ž ž
Secondary TKN (mg/L)	1	1	1	1	- 1	8
7 PRIMARY REMOVAL	1	1 1	1	1	i	8 8
% SECONDARY REMOVAL -		- !		1	1	-
Influent Total P (mg/L)		;				
Primary Total P (mg/L)		1	1	i	1	i
Secondary Total P (mg/L)			1		1	1
Z PRIMARY REMOVAL				:		
I SECONDARY REMOVAL						i

99.6 99.45 99.2 207.89 100.0 19.57 99.6 114.01 100.0 23.55 100.0 6.72
267 266 271 271 271 271 273 274 273 273 248 248 90 89 271 266
100.0 26 100.0 27 100.0 27 100.0 27 100.0 27 100.0 24 100.0 26 100.0 26
1 2 5 6 6 9 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
41.70 150.00 154.00 298.00 16.00 245.0 12.20 15.70 18.50 30.00 6.47 6.87 3.03 5.22 45.30 182.00 0.03 0.03
NALS  BOD, 5 DAY -TOTAL DEMAND  CHEMICAL, OXYGEN DEMAND  DISSOLVED ORGANIC CARBON  AMMONIUM, TOTAL, FULT RUAC.  mg/L. 0
CONVERTIONALS BOD; SDAY-TOTAL DEMAND COD CHEMICAL, OXYGEN DIRAND DOC DISSOLVED ORGANIC CABBON NINTER AMMONIUM, TOTAL, ITL T. RUAC.

		1				
	GLOBAL % PREV.	581				
	GLOBAL SPREAD FACTOR	2				
	PLANT SPREAD FACTOR	<u> </u>		- W	- 200 11111	
wage	GLOBAL GEO. MEAN	20.55			100182	
: Raw Se	PLANT GEO. MEAN	21.78			- Eloing	
SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight	GLOBAL % FREQ. DET.	56			** Yvinyove**	
SAMPLI	GLOBAL # DET	-				
	GLOBAL # SAMPLES	274				
	PLANT % FREQ.	0.01		landing!		
	PLANT # DET.	_				
	PLANT # SAMPLES	9				
nmford)		47.00		- Bridge		
a Falls (St. lary	PLANT IN. CONC. M MINL	47.00				
E : Niagar	UNITS QC PLANT PLANT CODE MIN. CONC. MAX. DET. > MIN. CONC.	ugh. 1				
PLANT NAME: Niagara Falls (Stamford) PLANT TYPE: Secondary	S			ammin		
PLA PLA	NAME	ENB			ST HIT	
	CONTAMINANT NAME	ORGANIC COMPOUND	11.7			
	CONTAM. CON	2			- MANAGE &	
	CONTINAN	VOLATII				

		PLANT	TYP	PLANT NAME: Niagara Fi	PLANT NAME: Niagara Falls (Stamford) PLANT TYPE: Secondary	(tamford)					SS	SAMPLING TVPI SAMPLE FORM	TYPE : I	SAMPLING TYPE: Final Effluent SAMPLE FORM: Wet Weight	=				
CONTAM- INANT	CONTAMINANT NAME	CODI	543	QC STD. FOR CODE SURFACE WATER	STD. FOR STD. REF.	PLANT PLANT MIN. CONC. MAX. DET. > DL CONC.	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT.	PLANT * PREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET.	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	FLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.	
CONVENTIONALS	HONALS																		
BODS COD DOC NNINTER NNTKUR		7777	000000			28.00 28.00 8.80 12.70 15.10 6.69	44.30 88.00 11.00 18.60 22.80 7.66	222229	22222	00000000	222	222222222	88.1 10001 10001 10001 10001	18.04 51.97 9.67 15.48 18.17 7.10	21.22 52.80 8.09 3.90 7.10	145	2.07 1.83 1.60 6.98 2.71 1.05	00001	
RSP. NNO2PR	HASSAIGNUS, DNELL I DI AL RESIDUE PARTICULATB RESIDUE PARLOSS ON IGNI. NITRITE, FILT. REACT. PHENOLICS (4AAP) NITRATES, TOTAL FILT. REAC.	111111	00000	000	ONT-MOB	0.55 10.50 10.90 0.03 0.10	20.70 12.10 0.18 0.16 0.25	994999		0.00 0.00 0.00 0.00 0.00 0.00	22 22 22 22 22 24 24	219 28 194 33 186	93.6 75.3 88.2 14.7 83.0	0.02 0.02 0.06	0.08 10.12 7.47 0.02 0.07 2.33	1.23 1.08 5.21 1.50 2.16	2.00 2.00 2.71 5.95 1.86 7.75	1000 1000 93.3 88.4 88.4 88.4	
METALS																			
SRUT ZNUT ZNUT ZNUT COUT COUT	MERCURY, UNFILT. TOTAL STRONTIUM, UNFILT. TOTAL ZINC, UNFILT. TOTAL ALLUMINUM, UNFILT. TOTAL COPYBL, UNFILT. TOTAL CADMIUM, UNFILT. TOTAL	3333333	0000000	920.00 30.00 75.00 75.00 5.00 5.00 5.00	ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB NYS-STD	190.00 20.00 70.00 10.00 10.00	910.00 30.00 210.00 10.00 10.00	0222422	0228-88	100.0 100.0 100.0 50.0 16.7	233 267 264 264 265 266	220 267 262 263 196 196 65	288 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	230.00 30.00 30.00 60.00 10.00 10.00	340.90 53.30 101.70 13.10 2.10	1.17 1.13 1.63 1.53 1.53	262	100.0 100.0 100.0 77.8 77.8 71.4	
CRUT CCNPUR NRJT PBUT	CHROMIUM, UNFILT. TOTAL. CYANIDB-FREE, UNFILT. REAC. NICKEL, UNFILT. TOTAL LEAD, UNFILT. TOTAL	3333	0000	25.00 25.00 25.00	ONT-MOE ONT-MOE ONT-MOE	10.00 10.00 30.00	10.00 30.00 30.00	12 12 12 12 12 12 12 12 12 12 12 12 12 1	~~~	16.7 10.0 8.3 8.3	222 267 267 267	FE 25 E 25	94 94	10.00 10.00 20.00	9.00 1.30 22.10 16.50	233	3.68 3.68 3.60	89.3 46.4 7.00	
BASE NEUT	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS PMPHEN PHENOL ug/l	OUNDS	64	1.00	ONT-MOB	7.50	7.50	01	-	10.0	127	4	1.8	1.76	1.65	1,66	1.59	10.7	
PESTICID PIBHCG P32AD PIDMOT PIPPOT X2HCB	PESTICIDES, HERBICIDES, PCBS PIBHCO GAMMA-BHCHEXCHLORCYCLJEXANB) P3AD 24-DIGHLOROPHENOXYAGHTCACID PIDMDT METHOXYGHLOR PIPPOT PP-DDT X2HCB HEXACHLOROETHANB	(B	~~~	0.4.0.0 0.000 0.000	ONT-MOB ONT-MOB ONT-MOB ONT-MOB	0.01 0.02 1.00 0.06 0.01	0.10 0.14 0.06 0.06	99999	<b>⊅</b> , <b>10</b> ≈ ≈ ≈	90.0 80.0 10.0 10.0 10.0	727 727 727 727	157 177 31 2 5	68.2 78.0 13.0 2.2 2.2	0.03 0.03 0.04 0.02 0.01	0.08 0.08 0.02 0.02	2.53 3.30 3.21 1.42 1.25	248 4.71 2.72 1.14 1.23	96.4 100.0 35.7 7.1 14.3	
VOLATILE	VOLATILES ORGANIC COMPOUNDS XIGHLO CHLOROPORM	Z,	-	0.20	UYS-STD	6.10	110.00	10	. 6	20.0	77.7	37	16.5	1.92	137	697	218	64.3	

GLOBAL % PREV. GLOBAL SPREAD FACTOR PLANT SPREAD FACTOR GLOBAL GEO. MEAN SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight GEO. MEAN GLOBAL % FREQ. DET. GLOBAL DET GLOBAL. SAMPLES PLANT F FREQ. DET. PLANT # DET. PLANT # PLANT NAME: Niagara Falls (Stamford)
PLANT TYPE: Secondary UNITSQA/QC PLANT FLANT (DRY CODE MIN. CONC. MAX. DET. WEIGHT) > DL CONC. CONTAM: CONTAMINANT NAME INANT

	100.0 100.0 100.0 100.0 100.0 100.0 100.0		100.0 97.1 97.1 73.3 97.1 100.0 100.0 100.0 100.0	85.3 38.2 5.9 17.7 82.3	353 67.7 50.0 35.3 47.1
	2.59 2.59 2.59 1.10 1.10 1.77 2.21		2.51 2.01 4.63 3.68 1.72 1.72 1.93 1.93 2.24 2.24 2.24 2.24 2.24 2.24 2.24 2.2	12.16 3.00 1.93 2.19 6.50	2.29 3.29 3.10 2.24 2.27 3.49
	1.17 1.26 1.12 2.05 0.00 1.16 1.16		108 118 118 118 119 128 128 130 130	2.51 1.41 4.05 3.59 3.59	2.52 2.52 3.24 3.24 5.53
	591221.45 5911.32 36897.85 6.03 82.34 20347.70 32783.51 20803.05 25.44		9835.74 6.13 9.74 9.29 301.43 606.31 2.23 59.17 173.99 30.4 231.70 905.39	116847.30 7312.80 3026.90 3563.50	5.50 7.40 7.20 5.10 8.40
	14125.16 14125.16 14125.16 1905.40 214.77 17113.10 30175.49 19497.69 44.62		4960.48 5.73 1.96 12.00 67.23 272.70 1.96 20.05 91.05 142.15		14.10 11.50 5.80 5.80 4.70 27.30
	100.0 97.9 100.0 100.0 100.0 100.0 100.0		100.0 98.0 93.0 73.2 98.0 100.0 100.0 96.0 100.0 100.0	82.3 29.4 3.9 11.8	28 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
	2 4 2 2 4 4 5 2 2 5 5 5 5 5 5 5 5 5 5 5		2 2 2 5 2 5 2 4 5 5 2 2	5 2 4 4 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	12 28 28 13 6 13
	\$ 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		2 2 4 4 5 8 8 8 8 5 5 5 5 5 5 5 5 5 5 5 5 5	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	\$\$\$\$\$\$\$
	100.0 100.0 100.0 100.0 100.0 100.0 50.0		0.001	0.00 0.00 0.00 0.00 0.00 0.00	00 00 00 00 00 00 00 00 00 00 00 00 00
	~~~~~~~		<b>~~~~~~~~~</b>	22 2	
	000000000				000000
	1693726.94 16636.90 45387.45 6.72 357.14 17113.10 33600.00 21600.00 43.15		\$166.05 849 2.68 16.96 102.08 305.36 2.58 2.214 132.14 132.14 171.13 438.69	23730.60 21549.80 22494.00 2976.30	33.60 35.70 11.10 7.40 62.70
	1354166.67 11992.62 38690.48 5.34 129.15 17113.10 27100.00 17600.00 43.15		4763.10 3.8.7 1.44 8.49 44.28 243.54 1.49 18.15 62.73 62.73 11.18.08	389881.00 38690.50 215494.00 22494.00	53.60 35.70 11.10 7.40 62.70
			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ug/kg 1 ug/kg 2 ug/kg 1 ug/kg 1	
	CHEMICAL OXYGEN DEMAND AMBONIOM, TOTAL PILT, PEAC. NITROGEN-TOT-KUEL, UNF. TOT (4.00(4)+(CONCN)) PHENOLICS (4.AAP) PHENOLICS (4.AAP) PHENOLICS (4.AAP) RESIDUE, TOTAL RESIDUE, TOTAL RESIDUE, TOTAL RESIDUE, TOTAL RESIDUE, TOTAL	The special section is	ALUMINUM, UNFIL, TOTAL, ARSENIC, UNFIL, TOTAL, CADMIUM, UNFIL, TOTAL, COBAT, TUNFIL, TOTAL, COPPER, UNFIL, TOTAL, COPPER, UNFIL, TOTAL, MICKEL, UNFIL, TOTAL, I.EAD, UNFIL, TOTAL, SELENIUM, UNFIL, TOTAL, SELENIUM, UNFIL, TOTAL, STRONTUM, UNFIL, TOTAL, ZINC, UNFIL, TOTAL, ZINC, UNFIL, TOTAL,	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS  MAKTEB M.CRESOL, ug/k  NCHRY CHRYSENE  NCHRY CHRYSENE  NPHEN HENANTHRENE ug/k  PRSTICIDES,HERBICIDES,PCBS  1934D 2,4-DICHLOROPHENOXYAGETIC ACID ug/k	ALMA BHC(BEXCHLORCYCLLEXANE) BETA-BHC (BEXCHLORCYCLLEXANE) GAMMA-BHC(BEXCHLORCYCLLEXANE) DHELDRIN PP.DDD PP.DDT 24 STRIC ORD BENOXYACHTCACID
3	COD NNITTER NNTKUR PH PHVI PPVI RST RST NNOTER	METALS	ALUT ASUT COULT COULT COULT COULT HIGUT NIUT NIUT SEUT SEUT	BASE NEL PMMCRE PMPIEN PNPIEN PNPIEN PSTICID	PIBLICA PIBLICB PIBLICG PIDLEL PIPPOD PIPPOT

AL THE

	PLANT NAME : PLANT TYPE :	ME:		Niagara Falls Secondary	Niagara Fails (Stamford) Secondary					SAMPL	SAMPLING TYPE : SAMPLE FORM :	E: Treated Slu:	Treated Sludge Dry Weight			
CONTAM.	CONTAMINANT NAME	UNITSQ (DRY C WEIGHT)	QA/QC CODE	UNITSQA/QC PLANT (DRY CODE MIN. CONC. FEIGHT) > DL	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL.	GLOBAL # DET	GLOBAL. S. FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL, SPREAD FACTOR	GLOBAL.
CONVENTIONALS																
COD NNINTER NNINTEUR PRUT RST RST NNOTPR	CHEMICAL, OXYGEN DEMAND AMMONIUM, TOTAL, FILT REAC. NTROGEN-TOT KULL, UNP. TOT (1,00G) (1,00G) (1,00G) HOSMONIUM, SUPELL, TOTAL. RESIDUE, TOTAL. RESIDUE, TOTAL. NITRATES, TOTAL, PL.T. REAC. PHENDLE, TOTAL, PL.T. REAC.		00000000	784789.64 14174.76 41262.14 7.25 38929.44 41100.00 17900.00 41.36	948905.11 19931.34 7445.26 7.47 38929.44 61800.00 26500.00 41.36 93.85	0000-0000	~~~~~~	100.0 100.0 100.0 100.0 100.0 80.0 80.0	8 8 8 8 5 5 6 8 8 8 8 8 8 8 8 8 8 8 8 8	36 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	100.0 100.0 100.0 100.0 100.0 100.0 100.0	862954.75 16816.82 44245.82 336 38929.44 50398.21 21779.58 28.92	\$68097.94 17658.28 38494.12 776538.67 80434.04 43379.33 42.68 43.05	1114 1127 1110 1100 1132 1132 1146 4.24	4.65 1.77 1.09 6.91 3.19 3.19 3.14	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0
METALS																
AGUT ALUT ASUT CDUT	SILVERUNPILTTOTAL. ALGIMUM,UNPILTTOTAL. ARSENIC,UNFILTTOTAL. CADMIUM,UNFILTTOTAL.	3333		38.84 7901.22 5.18 2.91	44.04 12621.36 8.03 3.89	~~~	~~~	100.0 100.0 100.0	1 8 8 8	1881	100.0 100.0 98.0 91.1	41.36 9986.20 6.45 3.37	37.78 10715.94 5.40 10.47	5 2 2 2	2.33 2.82 2.06 3.98	100.0 100.0 97.1 90.3
CRUT	COBALT, UNFILT TOTAL. CHROMIUM, UNFILT TOTAL. COPPER, UNFILT TOTAL. MERCURY, UNFILT TOTAL.	\$ \$ \$ \$ \$	0000	7.61 105.18 501.62 3.24	19.22 162.77 506.81 24.09	~~~~		100.0 100.0 100.0	39 45 50 50 50	32 4 4 5 6 4 6	82.1 100.0 100.0 98.0	12.09 130.84 504.21 8.83	9.14 333.06 732.24 3.24	1.93 1.36 1.01 4.13	2.75 3.59 2.16 2.04	85.7 100.0 100.0 97.1
MOUT NRJT PBUT SEUT SRUT	MOLYBIENDIM, UNFILTTOTAL, NICKEL, UNFILTTOTAL, LEAD, UNFILTTOTAL, SEI ENUM, UNFILTTOTAL, STRONTHIM, UNFILTTOTAL, ZINC, UNFILTTOTAL,		00000	3.24 27.49 161.81 3.16 177.99 663.26	3.24 29.13 183.21 3.72 235.04 663.43	- 0 0 0 0 0	- 0 0 0 0 0	100.0 100.0 100.0 100.0 100.0	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	23 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	93.3 98.0 96.0 100.0 100.0	3.24 28.30 172.18 3.43 204.54 663.35	6.41 72.95 196.62 2.67 240.93 988.90	1.22	2.95 2.95 2.96 2.98 2.55	69.2 90.0 97.1 100.0 100.0
BASE NEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SUNDS														
PNPHEN PNRAA PNCIRY	PHENANTHRACENE GHRYSENE	333		16181.20 6666.70 9029.10	20019.50 6666.70 9029.10	222	7 7	100.0 50.0 50.0	20 00 00	5 4	24.0 4.0 8.0	17998.30 4027.50 4687.10	2220.50 1379.50 1475.50	2.04	4.27 3.41 3.39	26.5 5.9 11.
PESTICIDA	PESTICIDES, HERBICIDES, PCBS															
PLBHCB P124D P324D P185H V P18HLCA P16HLCA P16HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10HLCA P10	BETA-BHC GREXCHLORCYCL/IEXANE) PP DDE SP 4-DICHLOROPHENOXYACHTC ACID SH 4-XI PROBENCHLORCYCL/IEXANE) ALTHA CHLORDANE GAMMA CHLORDANE DHELDRIN HEFTACHLOREACHDE PP DDD			3.20 7.30 3.65.00 3.65.00 6.50 6.50 6.50 17.80 4.90 11.30 24.30 222.00 3.20	12.20 1046.20 842.50 36.50 6.50 4.90 17.80 4.90 11.30 24.30 222.00	~~~~~~~~~~		100.0 100.0 100.0 100.0 100.0 50.0 50.0	888888888888888	25 25 25 21 22 21 22 20 7 7 7 7	38.0 68.0 50.0 36.0 22.0 22.0 42.0 20.0 20.0 14.0 16.0 42.0 20.0 42.0 42.0 42.0 42.0 42.0 42	6.20 9.70 4.29 20 7.60 3.90 3.40 6.50 5.20 8.20 2.80 2.80	8.80 11.10 72.50 92.70 5.50 6.50 6.80 6.50 5.20 4.60 16.70 7.00	2.58 11.50 12.51 1.51 1.51 1.66 1.66 1.66 1.69 1.91 1.91	4.39 2.72 2.94 2.94 3.00 3.51 2.58 2.47 2.47 2.47 2.47 2.47 2.47 2.47 2.47	47.1 13.5 13.5 13.5 13.5 13.5 14.7 14.7 14.7 14.7 14.7 14.7 14.7 14.7

PLANT NAME: Niagara Falls (Stamford)
PLANT TYPE: Secondary

SAMPLING TYPE: Treated Sludge SAMPLE FORM: Dry Weight

100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100	18 3
2         1000         36         36         1000         1686827         7686879         114         465           2         1000         47         40         1000         448827         188412         110         465           2         1000         47         40         1000         448827         110         100         111         465         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110         110	
1	0000
2         1         \$10         26         23         88.5         38.92         42.66         1.66         23           2         1         \$10         49         41         88.7         38.92         42.66         1.66         23           2         1         1000         49         41         1000         41.86         1.178         1.199         2.33           2         1         1000         49         49         1000         996.20         1001         996.20         1001         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82         2.82 <td< td=""><td>38929.44 41100.00 17900.00</td></td<>	38929.44 41100.00 17900.00
2         1000         44         44         1000         4136         37.78         1.09         233           2         1000         46         49         1000         996,20         107.78         1.09         223           2         1000         49         49         98.0         645         35.00         139         228           2         1000         45         49         91.1         337         104         135         206           2         1000         45         49         91.1         337         104         135         206           2         1000         45         49         1000         80         1000         80         1000         80         1000         80         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000         1000<	00
2         10000         44         44         1000         986.30         10778         109         223           2         10000         30         49         98.00         1000         986.30         10778         139         228           2         10000         30         49         91.1         337         1047         1139         228           2         10000         39         32         41         91.1         337         1047         1139         228           2         10000         45         49         91.00         130.42         33.06         136         39           2         10000         49         90         100.00         34         42         100.00         34         42         100.00         34         42         100.00         34         43         100.00         34         42         98.0         172.95         100         214         100         100.00         204         49         98.0         172.95         110         226         110         226         126         126         126         126         126         126         126         126         126         126         126	
2         1000         45         47         910         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500         500	000
2         1000         50         1000         13084         333.66         136         359           2         2         1000         45         45         1000         504.21         732.34         1.01         2.16         216           2         2         1000         45         45         100.0         504.21         732.34         1.01         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16         2.16 <td< td=""><td>2.91 7.61</td></td<>	2.91 7.61
2         1         100.0         34         23         67.0         3.24         64.1         0.00         2.54           2         1         100.0         45         42         93.3         28.4         1.12         2.95           2         2         1         100.0         50         48         96.0         172.95         1.10         2.95           2         2         1         100.0         50         48         96.0         1.22         2.04         2.96           2         2         1         100.0         50         48         96.0         1.12         2.04         1.12         2.94           2         1         100.0         50         100.0         663.35         988.90         1.10         2.94           2         1         100.0         50         12         24.0         1800000         2.04         1.12         2.94           2         1         1         50.0         50         100.0         663.35         988.90         1.10         2.04           2         2         1         0         0         4         40         469000         1.10         1.10         <	000
2         100.0         50         49         96.0         173.8         1966.2         1109         246           2         2         100.0         50         49         96.0         173.8         1966.2         1102         246           2         2         100.0         50         50         100.0         204.34         267         112         236           2         100.0         50         12         24.0         18000.00         2220.00         1.16         427           2         100.0         50         12         24.0         18000.00         223         1.00         257           2         100.0         50         12         24.0         18000.00         1.16         427           2         1         50.0         50         4         8.0         400.00         1.16         427           2         1         50.0         50         4         8.0         460.00         1.16         427           2         1         50.0         50         4         8.0         460.00         1.16         2.5         1.16           2         1         50.0         50         34 <td>23.24</td>	23.24
2         100.0         50         12         24.0         18000.00         2220.00         1.16         427           2         1         50.0         50         2         4.0         4690.00         1.16         427           2         1         50.0         50         2         4.0         4690.00         2.04         341           2         1         50.0         50         4         8.0         4690.00         1.16         427           2         1         50.0         50         19         38.0         10.00         2.53         3.39           2         2         100.0         50         34         68.0         10.00         1.20         2.23         4.39           2         2         100.0         50         34         68.0         10.00         10.00         2.72         2.71           2         2         100.0         50         34         68.0         10.00         2.14         2.94           2         2         100.0         50         13         35.0         1.44         0.00         10.00         2.02         2.14         2.94           2         1	16.81 3.16 177.99 663.26
2         100.0         50         12         24.0         1800000         223000         1.16         427           2         1         50.0         50         2         4.0         4690.00         1380.00         2.04         3.49           2         1         50.0         50         4         8.0         4690.00         1.16         4.27           2         1         50.0         50         19         38.0         10.00         2.53         3.39           2         2         100.0         50         19         38.0         10.00         2.53         3.39           2         2         100.0         50         19         38.0         10.00         12.0         2.2         2.2         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39         4.39	
2         2         100.0         50         19         38.0         10.00         10.00         258         439           2         2         100.0         50         34         66.0         10.00         10.00         15.0         272           2         2         100.0         50         34         66.0         10.00         15.0         272           2         1         100.0         50         11         22.0         610.00         10.00         214         581           2         1         50.0         50         11         22.0         10.00         10.00         11.4         581           2         1         50.0         50         11         22.0         10.00         10.00         5.0         2.4           2         1         50.0         50         15         42.0         0.00         10.00         2.02         2.4           2         1         50.0         50         15         30.0         10.00         1.00         1.66         2.86           2         1         50.0         50         1         20.0         1.00         1.90         2.0         2.44	ug/kg 1 16.18 ug/kg 1 6.67 ug/kg 1 9.03
2         2         100.0         50         19         38.0         10.00         10.00         258         439           2         2         100.0         50         34         66.0         10.00         10.00         15.0         272           2         2         100.0         50         18         56.0         610.00         10.00         214         581           2         1         50.0         50         11         22.0         610.00         90.00         154         274           2         1         50.0         50         11         22.0         10.00         10.00         213         304           2         1         50.0         50         11         22.0         10.00         10.00         202         241           2         1         50.0         50         15         30.0         10.00         10.00         10.00         202         241           2         1         50.0         50         16         10.00         10.00         1.66         2.86           2         1         50.0         50         1         1.24         2.86         2.86 <t< td=""><td></td></t<>	
2         2         100.0         50         18         36.0         430.00         90.00         154         294           2         1         50.0         50         11         22.0         10.00         10.00         9.13         3.00           2         1         50.0         50         22         44.0         0.00         10.00         2.02         241           2         1         50.0         50         15         30.0         1.00         2.02         241           2         1         50.0         50         15         30.0         10.00         1.00         1.66         2.86           2         1         50.0         50         1         14.0         10.00         1.90         1.66         2.86           2         1         50.0         50         1         14.0         10.00         2.99         2.47           2         1         50.0         5         1         20.0         20.00         1.91         2.14           2         1         50.0         5         1         2.0         0.00         1.91         2.14           3         1         50.0	ug/kg 1 0.00 ug/kg 1 0.01 ug/kg 3 0.36
2         1         30,0         50         22         44,0         0,00         10,00         202         241           2         1         50,0         50         15         44,0         0,00         10,00         166         241           2         1         50,0         50         15         30,0         10,00         1,60         241         258           2         1         50,0         50         1         14,0         10,00         0,00         299         247           2         1         50,0         50         5         10,0         20,00         191         214           2         1         50,0         50         16         32,0         50,00         191         214           2         1         50,0         50         16         32,0         50,00         191         214           2         1         50,0         50         16         32,0         50,00         190         124         313           2         1         50,0         50         16         32,0         50,00         190         124         313	€1 ≈ ≈
2         1         50.0         50         15         50.0         10.00         10.00         10.00         10.00         10.00         14.1         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3         2.3	c
2 1 50.0 50 5 10.0 20.00 20.00 1.91 2.14 2 1 50.0 50 16 32.0 50.00 80.00 12.62 3.13 2 1 50.0 50 21 42.0 0.00 10.00 12.7 2.94	ug/kg 2 0.00 ug/kg 1 0.00
10 17 17 17 17 17 17 17 17 17 17 17 17 17	ug/kg 3 0.02 ug/kg 3 0.29 0.00

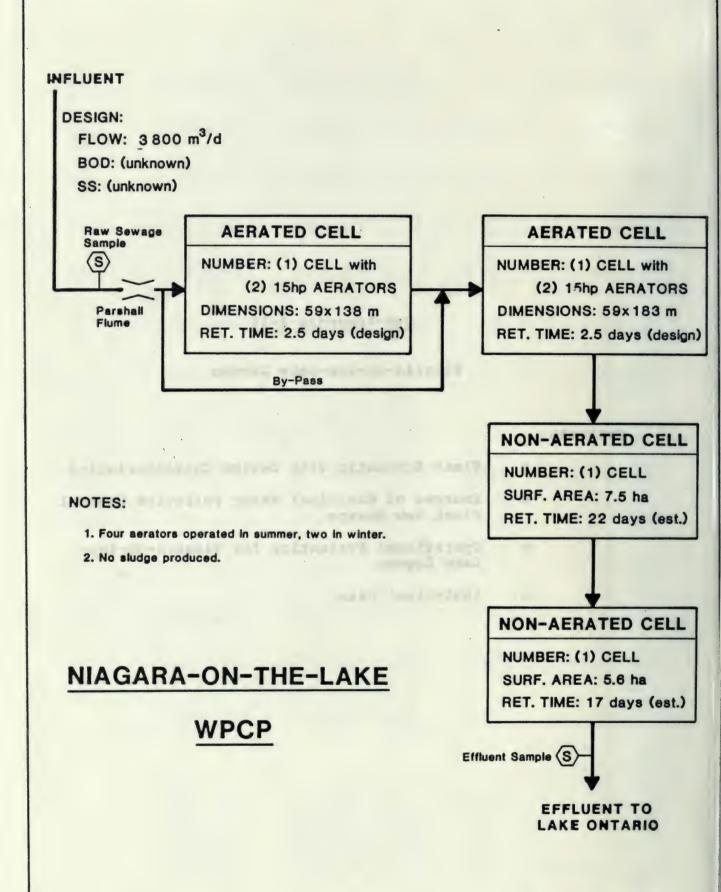
	PLANT	PLANT NAME: Niagara Falls (Stamford) PLANT TYPE: Secondary	ara Falls ( ndary	Stamford)					SAMPL	SAMPLE FORM : Dry Weight	: Dry W	d Sludge elght				
CONTAM. INANT	CONTAM: CONTAMINANT NAME INANT	UNITSQA/QC FLANT (DRY CODEMIN, CONC. B WEIGHT) > DL	PLANT MIN. CONC. > DL	PLANT MAX. DEF. CONC.	FLANT # SAMPLES	PLANT PLANT DET.	PLANT S. FREQ. DET.	GLOBAL.	GLOBAL.	GLOBAL. % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	FLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.	
VOLATILL	VOLATILE ORGANIC COMPOUNDS															9
XICDBM	XICDBM CHLORODIBROMOMETIIANE	ug/kg 1 6634.30	6634.30	6634.30	2	-	90.0	80	-	2.0	1796.70	264.10	6.34	3.53	2.9	

# Sub-Appendix A-18

# Niagara-on-the-Lake Lagoon

### Contents:

- o Plant Schematic with Design Characteristics
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Niagara-on-the-Lake Lagoon
- o Analytical Data



# SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE	NIAGARA ON THE LAKE LAGOON 120001238 AERATED CELL PLUS LAGOON
DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	3.841 4.152 5210
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	25
COMMERCIAL SOURCES (%) (Population x 0.0757)	9
RESIDENTIAL SOURCES (%) (Population x 0.175)	22
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from industrial, commercial and residential sources)	N 44
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	27 18 13
DESCRIPTION OF THE TOP 5 INDUCTOR	C DICCUARCED MO MUE MDCD

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	SIC	# OF COMPANIES
FRUIT AND VEGETABLES DAIRY TRANSPORTATION EQUIPMENT BEVERAGES METAL FINISHING	2032-2038 2021-2026 3711-3799 2082-2087 3411-3493	1 9 2 7 4

### NIAGARA-ON-THE-LAKE LAGOON

TREATMENT FACILITY: Other (Lagoon)
PERIOD ENDING: May 29, 1987

SAMPLING SEASON:

Summer (Warm Weather)

DESIGN AVG FLOW:

3840 m3/d

				PRE-SAN	PLING PERI	OD		
1	PARAMETER	DAY 1	DAY 2	DAY 3 1	DAY 4 1	DAY 5 1	DAY 6 :	DAY 7
,	RAN SENAGE FLOW	3,196	3,364	3,341	3,541	3,564	3,278	3,269
1	I of Design Flow	83.232	87.60%	87.012	92.21%	92.81%	85.36%	85.132
! !	Influent BOD (mg/L) Primary BOD (mg/L)			112.0				
	Secondary BOD (ag/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL		1	34.0		į		
	Influent SS (mg/L)	 	-   -	47.0	-  -	-   -	i 	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Primary SS (mg/L) Secondary SS (mg/L) 7 PRIMARY REMOVAL		1	12.0			1	
	I SECONDARY REMOVAL			74.5			; { 	
	Influent NH4 (mg/L) Primary NH4 (mg/L)		1			1	1	
	Secondary NH4 (ag/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL							
	Influent TKN (mg/L)	- 		-		-		
	Primary TKN (mg/L) Secondary TKN (mg/L) Z PRIMARY REMOVAL					1		
	Z SECONDARY REMOVAL					·		
1	Influent Total P (mg/L) Primary Total P (mg/L)		15	9.84 :	1	1	2 2 2	
:	Secondary Total P (mg/L)		1	3.06 1	1	:		

# NIAGARA-ON-THE-LAKE LAGOON

TREATMENT FACILITY: Other (Lagoon)
PERIOD ENDING: May 29, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLON: 3840 m3/d

			PRE-SA	MPLING PER	IOD		
PARAMETER :	DAY 8 1	DAY 9 :				DAY 13 1	
	!		!				
RAW SEWAGE FLOW	3,200	3,200	2,655	2,987	2,987	3,614	3,587
I of Design Flow	83.331	83.331	69.142	77.79%	77.79%	94.112	93.41
Influent BOD (mg/L)		176.0					******
Primary BOD (mg/L) : Secondary BOD (mg/L) : 1 PRIMARY REMOVAL :	2 2 2	22.0	1	i	i !	1	
% SECONDARY REMOVAL	2 8	87.5 1	1 1	1	1	1	
Influent SS (mg/L) : Primary SS (mg/L) :		242.0			148.0		
Secondary SS (mg/L) : 1 PRIMARY REMOVAL :	8 8	32.0	1	5 8	51.0	1	
Z SECONDARY REMOVAL	i	86.8		1	65.5		
Influent NH4 (ag/L)		20.0	i				
Primary NH4 (mg/L) : Secondary NH4 (mg/L) : 1 PRIMARY REMOVAL :	3 3 3 5	5.5 :	i 1	8 8 8	i 8 9		
Z SECONDARY REMOVAL		72.8 1	;				
Influent TKM (mg/L) : Primary TKM (mg/L) :	2 2 2	29.0	; ;	1	1		
Secondary TKN (mg/L) : Z PRIMARY REMOVAL :	1 1	7.1 1	3 3 3	1	1	9	
% SECONDARY REMOVAL	!	68.6		1			
Influent Total P (ag/L) : Primary Total P (ag/L) :	1	5.50	1	1	1	1 1	
Secondary Total P (mg/L) : 7 PRIMARY REMOVAL	1	2.40	!	1	1	1	
% SECONDARY REMOVAL	1	56.36			!	1	

# OPERATIONAL EVALUATION FOR: N I A G A R A - O N - T H E - L A K E L A G D O N

TREATMENT FACILITY: Other (Lagoon) PERIOD ENDING: May 29, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLON: 3840 m3/d

			SAMP	LING PERIOD		
PARAMETER	: DAY 15 :	DAY 16 1		DAY 18 1		 : DAY 21
			1 1	1	1	   .
RAW SEWAGE FLOW	3,505	2,996 !	2,996 :	4,191	1,755	1
% of Design Flow	91.28%	78.02%	78.022	109.142	45.70%	\$ 8 8 2 2
Influent BOD (mg/L) Primary BOD (mg/L)	-	   	   		; ; !	     
Secondary BOD (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL		1				1 1 2 3 8
Influent SS (mg/L) Primary SS (mg/L)	156.0					;
Secondary SS (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL	1 46.0 1 1 70.5 1	1	; ;	;	; ;	i i
Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL	-{					
Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL						
Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) I PRIMARY REMOVAL	-:					

PLANT NAME: Niagara-on-the-Lake PLANT TYPE: Laguon

GLOBAL GLOBAL SPREAD % PREV. FACTOR PLANT SPREAD FACTOR GLORAL GEO. MEAN SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight GEO. MEAN GLOBAL. % FREQ. DET. GLOBAL # DET GLOBAL # PLANT S. FREQ. DET. PLANT \* DET. PLANT # SAMPLES UNITS QC PLANT PLANT CODE MIN. CONC. MAX. DET. CONTAM- CONTAMINANT NAME INANT

	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	97.3 97.1 100.0 100.0 100.0 75.7 83.8	86.5 78.4	1000 94.6 54. 16.2 18.9
	1.93 1.82 1.82 1.69 1.05 1.93 1.78 2.98	2.65 2.28 2.11 2.14 2.94 2.55 2.31 2.09	3.45	3.72 2.29 1.30 1.56 1.74
	126 109 1109 1110 1123 1123 1123 1123	1.37 0.00 1.53 1.27 1.76 1.76 1.38	1.94	2.54 2.05 1.63 1.96 1.86 1.63
	140.23 287.75 22.39 15.37 25.44 6.90 126.88 100.84	1000.10 110.60 0.23 370.70 211.00 10.40 9.30	25.59	0.03
	109.64 224.07 17.85 18.61 33.16 7.11 97.00 78.81 0.01	840.00 530.00 0.13 230.00 70.00 10.00 10.00	24.65	0001
	99.6 100.0 100.0 100.0 100.0 28.9 21.4	98.0 98.0 99.1 99.1 25.5 25.5 25.5	42.9	272 818 115 115 83 33
	266 258 271 274 273 275 266 89 89	306 48 274 318 315 82 82 76	167	214 143 4 13 9
	267 273 273 273 273 267 267 271 271	322 49 283 319 321 322 322	27.5	276 276 276 276 276
	. 100.0 100.0 100.0 100.0 100.0 100.0 40.0	100.0 100.0 100.0 100.0 100.0 33.3 16.7	100.0	\$ 22 22 22 22 0.0000000000000000000000000
		<b>6-966</b>	80 E	8
	*************	0-90000	80 VI	***********
	135.00 252.00 20.00 20.00 20.10 51.00 7.13 122.00 96.00	1300.00 530.00 0.19 240.00 100.00 20.00 50.00 30.00	117.40	0.005
	80.70 200.00 16.00 15.80 21.50 7.08 77.00 64.70	\$70.00 \$30.00 \$20.00 \$0.00 \$0.00 \$0.00	36.80	0.03 0.03 0.03 0.04 0.12
	00000000	0000000	7 7	m m m m m
		3555555	NDS	333333
IONALS	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL PIL TREAC. NITROGEN-TOT-KJEL, UNP. TOT (-LOCATH-CONOTOR) RESIDUE, PARTICULATB RESIDUE, PARTICULATB RESIDUE, PARTICULATB NITRITE, PILT, REACT.	ALUMRUM, UNPILTTOTAL. COPPER, UNPILTTOTAL. MERCURY, UNPILTTOTAL. STROWNTHUM, UNPILTTOTAL. STRUCLURINT. TOTAL. STR. VER, UNPILTTOTAL. COBALT, UNPILTTOTAL. CADMIUM, UNPILTTOTAL.	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS PAMICRE M-CRISOL PAPHEN PHENOL UBAT	24-DICHLOROPHENOXYACETIC ACID GAMMA-BHC(HEXCHLORCYCLHEXANB) ENDOSULFAN I PROSULFAN SULPHATE PP-DDE PP-DDE
CONVENTIONALS	BODS COD DOC NNITTPR NNITTPR NNITTPR NNITTPR NNITTPR RSP RSP RSPOO	METALS ALUT CUUT HQUT SRUT SRUT AGUT COUT COUT	BASE NEUT PMMCRE PMPHEN PESTICIDE	P324D P18HCQ P1END1 P1ENDS P1PPDB

PLANT NAME: Niagara-on-the-Lake

SAMPLING TYPE: Final Effluent SAMPLE FORM: Wet Weight

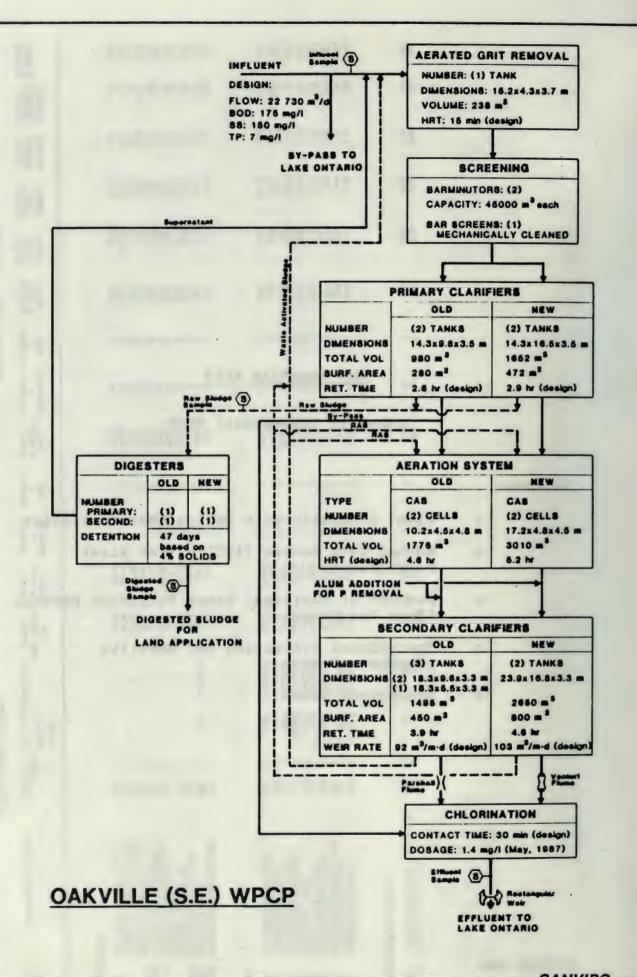
		PLANT TYPE : Lagoon	PE : La	Roon						Vs	MPLE F	SAMPLE FORM : Wet Weign	vet weign					
CONTAM- INANT	GONTAMINANT NAME	UNITS QC CODE		STD. FOR STD. REF. SURFACE WATER	PLANT PLANT MIN. CONC. MAX. DET. > DL CONC.		PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL #	GLOBAL # DET.	GLOBAL S. FREQ. DET.	PLANT GEO. MEAN	GEO. GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.	
CONVE	CONVENTIONALS							316										
BODS COD DOC	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON	ne. Ne.			27.00 88.00 11.00	48.20 110.00 11.60	<b>20 20 20</b>	***	100.0	000	222	100.0	10032	25.95 70.64 10.09	1.12	26. 1.4. 1.1.	0.001	
NNO2PR NNOTPR NNTKUR PH	~				6.10 8.70 7.57	3.62 6.15 43.00 8.13	N 40 40 40 4	N 60 60 60 6	100.0	2222	2222	0.001	4.97 12.86 7.85	10.85	1.17	22.2	00000	
RSP RSPLOI PHNOL NNITTPR	RESIDUR, PARTICULATE  1 RESIDUR, PARLOSS ON IGNI.  2 PHENOLICS (4AAP)  R AMMONIUM, TOTAL FILT REAC.		0000	ONT-MOB		91.40 42.20 0.34 0.65	n 4 40 40	0 64 64	100.0 40.0 20.0	200	000	20.0	90.0	40.98 0.07 0.60	1.04 2.36 4.19	1.04	0.001	
METALS					11													
ALUT CUUT HGUT SRUT	ALUMINUM, UNFILT. TOTAL COPPER, UNFILT. TOTAL MERCURY, UNFILT. TOTAL STRONTIUM, UNFILT. TOTAL	3333	75.00 5.00 <b>0.20</b> 3750.00		100.00	10.00	0 - N 0	0 m m 0	100.0	27929	2-92:	30.0 100.0 100.0	140.00	10.00 10.00 230.70	0.00 0.00 0.01 0.01 0.01	131 000 136 136	0.001	
ZNUT COUT CRUT MOUT CDUT	ZINCUNFILTIOTAL COBALTUNFILTIOTAL GROMUM, DNFILTIOTAL MOLYBERUM, UNFILTIOTAL NCKEL, ONFILTIOTAL NCKEL, ONFILTIOTAL	33333	30.00 5.00 100.00 25.00	ONT-MOE ONT-MOE ONT-MOE ONT-MOE	10.00 10.00 10.00 10.00 30.00	10.00 10.00 30.00	00000	0 11 11 11 11 10	33.3 33.3 33.3 16.7	222222		25.0 25.0 25.0 25.0 25.0	00001	5.90 5.90 5.90 1.80 6.90	143	146.64	200 200 200 200 200 200 200 200 200 200	
PESTIC	Sa.		ř							:			8	6	6			
PSAD	24-DIGHLOROPHENOXYAGETIC ACID SENDOSULPAN SULPHATE	E E E	4.00	ONT-MOE	0.03	0.10	n w	7-1	20.0	20	-	10.0	0.03	0.02	246	1.89	80.0	

# Sub-Appendix A-19

# Oakville (Southeast) WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- O Annual Data Review (1981 1986 Plant Performance)
- O Sources of Municipal Water Pollution Control Plant Raw Sewage
- O Operational Evaluation for Oakville (Southeast) WPCP
- o Analytical Data



SOUTH EAST NPCP Conventional Activated Sludge Phosphorus Removal - Continuous Capacity - 22.730 18(3) m3/day

1981	1982	1983	1984	1985	31-85
			;		
12.86	11.82	12.37	12.49	; '' 11	1
168.68	: 148.68	198.88	146.83	168.91	161.26
2.20	2.76	2.48	3.93	2.55	2.76
1.0.	1.0.	i I.D.	I.D.	i I.D.	
185.98	163.88	179.88	188.17	238.91	198.69
7.10	9.18	5.88	7.28	8.21	7.49
1.0.	1.D.	1.D.	1.0.	I.D.	
7.48	6.91	7.78	8.15	9.49	7.98
8.84	<b>9.75</b>	8.96	8.87 :	<b>8.8</b> 6	8.86
1.D. Y	1.D.	I.D.	1.D.	I.D.	i y
	168.68 2.28 I.D. 185.98 7.18 I.D.	168.68	168.68	168.68 148.68 198.88 146.83 2.28 2.76 2.48 3.93 I.D. I.D. I.D. I.D. I.D. I.D. I.D. I.D	168.69 148.68 198.00 146.83 168.91 2.28 2.76 2.48 3.93 2.55   I.D. I.D. I.D. I.D. I.D. I.D. I.D. I.

I.D. - Insufficient Data

# SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP	OAKVILLE SOUTHEAST WPCP
WORKS NUMBER	120000998
TREATMENT TYPE	CONVENTIONAL ACTIVATED SLUDGE
	PHOSPHORUS REMOVAL CONTINUOUS
DESIGN CAPACITY (1000 m3/d)	22.730
1986 AVERAGE DAY FLOW (1000 m3/d)	13.086
POPULATION SERVED	21900
A STATE OF THE PARTY OF THE PAR	
% OF TOTAL FLOW ATTRIBUTED TO:	
	The second secon
INDUSTRIAL SOURCES (%)	0.4
COMMEDIAL COURCES (2)	
COMMERCIAL SOURCES (%) (Population x 0.0757)	13
(Population x 0.0757)   policy   box	13
RESIDENTIAL SOURCES (%)	
(Population x 0.175)	2.9
(ropulation x 0.175)	
UNACCOUNTED FOR, INCL. INFILTRATIO	N 58
(100-% Contributed from	
industrial, commercial and	
residential sources)	
DAME TO THE RESIDENCE OF THE PARTY OF THE PA	
PROFILE OF INDUSTRIES IN CATCHMENT	
TOTAL NO OF INDUSTRIES	312
INDUSTRIES WITH WATER	32
NO OF SIC CATEGORIES	. 42
	Committee of the Commit
DESCRIPTION OF THE TOP 5 INDUSTRIE	S DISCHARGED TO THE WPCP
(BASED ON WATER USE DATA)	
DESCRIPTION	SIC # OF
	COMPANIES
DHOMOCDADHIO CHENTCALC	2061 2061 2
PHOTOGRAPHIC CHEMICALS	3861-3861 2 3711-3799 24
TRANSPORTATION EQ'T	•
PRIMARY TEXTILE	2211-2269 3

PHARMACEUTICAL

COIL COATING

2830-2834

3479-3479

DAKVILLE (SOUTH-EAST) MPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: June 12, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW:

22,730 m3/d

2 0 1 1 1 1 1 1				PRE-SAM	PLING PERI	OD		2 8 8
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	PARAMETER :	DAY 1 :	DAY 2 1	DAY 3 :			DAY 6	
11=								
11	RAN SENAGE FLOW	12 920 !	12,560	17.430	12,640	12,400	12.390 !	
11	NAM SEMHOE FLUM	12,020	12,000 !	11,000		1		
3 2 -	% of Design Flow	56.401	55.261	55.57%			54.51%	56.231
11	1	1	1		1	8	1	2 1
11-								
8 2 9 8	THITTENE DOD INGLES	175.0 1	1	1	1	3 8	t t	9 8
1 1	Primary BOD (ag/L)	41.0 1	1	2 2	1	1	i	1
1 2	Secondary BOD (ag/L)	1.0 1	8 9	3 1	*	1	1	8
1 1	I PRIMARY REMOVAL	76.671	1 1	1	1	8 0	2 2	1
11	I SECONDARY REHOVAL	99.4%	#	1	1	;	1	å
11-								
8 8	Influent SS (mg/L)		1	1	i	1	1	1
- 11	Primary SS (mg/L)		1	2 2	1	3	i	1
11	DECOMMENT , DO THISTER	20.0 1	1	1	1	1	9	3
2.0	I PRIMARY REMOVAL	11.7%	1	1	;	3	3 8	3
1 1	I SECONDARY REMOVAL		. !	1	1	1		1
11.							;	
11	Influent NH4 (mg/L)		i	i	i	1	1	•
11	Primary NH4 (mg/L)	•	i	i	i	1	i	1
9 8	occompany min ray as	15.4	i	i	i	i	i	
11	7 PRIMARY REMOVAL	-82.6%	i	i	i	i	i	
11	% SECONDARY REMOVAL	18.9%	1	i	i	i 	i 	
11	Influent TKN (mg/L)	19.2		!	!			
11		36.8						
11	Secondary TKN (mg/L)	16.7			i	:		
1 /		-91.7%						
11	Z SECONDARY REMOVAL	13.01			:			
11		201011						
11	Influent Total P (mg/L)	6.80		9		1	1	
11	-	4.60		1	3		1	
11	Secondary Total P (mg/L)				2	1	1	
2 2	,	32, 4%			1		1	
11	% SECONDARY REMOVAL	88.2%				1	!	

# OAKVILLE (SOUTH-EAST) WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: June 12, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 22,730 m3/d

**				PRE-SA	MPLING PER	IOD		1
11	PARAMETER :	DAY B		DAY 10 :				
=:								
11	RAN SEWASE FLOW	12,510	11,600		11,800		11,821	12,410
1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	% of Design Flow	55.042	51.032	52.001		53.112:		54.601
11-	Influent BOD (mg/L)							176.0 (
11	Primary BOD (mg/L)	1	1	52.0 1	51.0 1	1	1	37.0 1
;;	Secondary BOD (mg/L)	1		4.0 ;	2.0 1	1	1	1.0 1
11	Z PRIMARY REMOVAL	1		1	1	1	1	79.0%
11	2 SECONDARY REHOVAL							99.421
11	Influent SS (mg/L)							328.0
11	Primary SS (mg/L)	1		19.0 ;	48.0 :	1	i	46.0 :
11	Secondary SS (ag/L)	1	:	9.0 1	6.0 1	;	!	4.0 1
11	I PRIMARY REMOVAL	1	1	1	3	1	1	86.011
11	I SECONDARY REMOVAL . :	1	1	1	1	1	1	98.81
11	Influent NH4 (mg/L)							
11	Primary NH4 (mg/L)			7.4	28.6	1		1
11	Secondary NH4 (ag/L)			11.5	7.8 :	1	;	
11	% PRIMARY REMOVAL	1		1	1		1	1
11	% SECONDARY REMOVAL	1	:	}	- 1	1	;	;
11-	* /							
11	Influent TKN (mg/L) : Primary TKN (mg/L) :	i	i	12.8	26.5			1
11	Secondary TKN (mg/L)		i	15.2	17.6	i i	1	1
11	% PRIMARY REMOVAL	1		13.2 1	1/.0 1			;
11	% SECONDARY REMOVAL							;
11-								
11	Influent Total P (mg/L)	1	- 1	1	1	1	1	12.40 1
11	Primary Total P (mg/L)	1	1	3.80 1	5.80 1	1	1	9.80 1
11	Secondary Total P (mg/L) :	1	;	0.40 :	0.40 1	7	1	0.70 1
11	Z PRIMARY REMOVAL		1	1	•			21.01
11	% SECONDARY REMOVAL	1	:	1	1	;	1	94.421

# OAKVILLE (SOUTH-EAST) WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: June 12, 1987
SAMPLING SEASON: Summer (Warm Meather)
DESIGN AVG FLOW: 22,730 m3/d

				SAMP	LING PERIO	D			
	PARAMETER	DAY 15 :	DAY 16 :	DAY 17 :	DAY 18 :	DAY 19	DAY 20	: DAY	21
=							======	======	====
	RAN SENAGE FLON	12 000 1	12 400 1	10,780 :	12 720 1	ו דדם נו		1	
	THE SCHOOL PLUE	12,700 1		10,700				1	
	1 of Design Flow			47.432				F 1	
				;		;			
	Influent BOD (mg/L) Primary BOD (mg/L)	1225.0	i	56.0 ;	89.0	i		i	
	Secondary BDD (mg/L)	3.0 1		4.0 1		-		1	
	I PRIMARY REMOVAL	3.0 1		7.0 :	0.0 1	. 1		2	
	% SECONDARY REMOVAL			1				1	
	a DEDONDANT RENDYAL								
	Influent SS (mg/L)		1	1		1		ž	
	Primary SS (mg/L)	2 2		8 8	1	8		1	
	Secondary SS (mg/L)	:	:	2 2	2 2	1 1		1	
	Z PRIMARY REMOVAL	1	?	2 8	:	4 1		1	
	% SECONDARY REMOVAL	1	1	1	1	1		8	
	Influent NH4 (eg/L)	2/ 0 /	i		70.0				
		26.8 1		24.1 1		i		í	
	Secondary NH4 (mg/L) 2 PRIMARY REMOVAL	21.0 i	i	7.3 i	10.9	i		i	
	Z SECONDARY REMOVAL		1		9	1		1	
	* ACCOUNTURY VEHICLE			!				! -!	
	Influent TKN (eg/L)			2	3			1	
		26.2 1	1 1	24.0 :	41.5 (	1		3 2	
	Secondary TKN (mg/L)	1	1 1	8.8 :	9.4 1	1		8 8	
	I PRIMARY REMOVAL	3	1	2 3	8	1		1	
	I SECONDARY REMOVAL	1	8	1	1	1 1		1	
	*******************							-;	
	Influent Total P (ag/L)		8	1	1	1		1	
	Primary Total P (mg/L)		1	2.40 1		1		1	
	Secondary Total P (mg/L)		1	0.60 :	0.60	1			
	7 PRIMARY REMOVAL 7 SECONDARY REMOVAL		3	5	1	i		1	

PLANT NAME: Oakville (Southeast) PLANT TYPE: Secondary

GLOBAL & PREV. 97.3 97.1 97.1 100.0 100.0 100.0 70.3 94.6 86.5 GLOBAL SPREAD FACTOR 3.45 2565 2228 2211 2211 2210 2209 2009 3.72 PLANT SPREAD FACTOR 1.15 0.00 0.00 1.23 1.11 1.80 1.80 236 7866868 1.35 GLOBAL GEO. MEAN 51.10 110.60 0.23 370.70 211.00 38.80 59.50 6.50 287.75 22.39 22.39 15.37 25.44 6.90 126.88 0.02 25.59 SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight GEO. MEAN 100.00 40.00 90.00 510.00 30.00 50.00 23.69 0.02 GLOBAL % FREQ. DET. 51.8 88.000 8.00 9.86 8.000 9.00 9.86 8.000 9.00 9.86 23.0 23.0 23.0 23.0 23.0 23.0 23.0 60.7 GLOBAL DET. 306 237 48 274 48 318 318 315 76 167 143 85 27 27 27 88 GLOBAL SAMPLES 322233 275 276 2002 200 % FREQ. DET. 0.09 100.0 100.0 100.0 100.0 16.7 100.0 PLANT # DET. m m SAMPLES PLANT s s CODE MIN. CONC. MAX. DET. CONC. 376.00 24.50 24.60 33.80 7.22 172.00 20.00 20.00 20.00 20.00 12.00.00 110.00 10.00 38.30 0.06 0.03 20.40 20.40 20.40 26.30 6.81 78.70 980.00 30.00 440.00 70.00 10.00 17.30 UNITS 33 2 555555555 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS GAMMA-BIRCHEXCHLORCYCL/HEXANB)
24-DICHE.OROPHENOXYAGETIC ACID BOD, 5 DAY -TOTAL DEMAND CHEMICAL, OXYGRN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL FILT REAC. NITROGEN-TOT-KJEL, UNF. TOT ALUMINUM, UNPILT TOTAL CHROMIUM, UNPILT TOTAL COPPER, UNFILT TOTAL MERCURY, UNPILT TOTAL (-LOG(H+(CONCN))
RESIDUE, PARTICULATE
RESIDUE, PARTICULATE STRONTIUM, UNFILT. TOTAL ZINC, UNFILT, TOTAL NICKEL, UNFILT, TOTAL LEAD, UNFILT, TOTAL CADMIUM, UNFILT, TOTAL CONTAMINANT NAME PESTICIDES, HERBICIDES, PCBS M-CRESOL. CONVENTIONALS CONTAM. BODS COD DOC NNHTPR NNTKUR PH RSP RSP PMMCRE P1BHCG P324D METALS ALUT SRUT SRUT ZNUT NIUT PBUT CDUT

	GLOBAL % PREV.
	GLOBAL SPREAD FACTOR
	PLANT SPREAD FACTOR
	GLOBAL GEO. MEAN
nal Efflue et Welght	PLANT GEO. MEAN
RM : W	GLOBAL % PREQ. DET.
IAMPLING TYPE : Final Effluent IAMPLE FORM : Wet Weight	GLOBAL PET.
SAI	GLOBAL # SAMPLES
	PLANT % FREQ. DET.
	PLANT # DET.
	PLANT # SAMPLES
PLANT NAME : Oakville (Southeast) PLANT TYPE : Secondary	UNITS QC STD. FOR STD. REP. PLANT PLANT CODE SURFACE MIN. CONC. MAX. DET. VATER DL. CONC.
	CONTAMINANT NAME
	CONTAM- INANT

100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	96.4 77.8 100.0 100.0 100.0 85.7 82.1 71.4	96.4
207 1.83 1.60 6.98 2.71 1.05 2.00 5.95 7.75 2.71	3.72 2.56 2.62 2.63 3.60 1.54 1.54	2.48
1.34 1.16 1.20 1.28 1.02 1.19 1.19 8.36	100 000 1146 1126 1133 1143	3.57
21.22 52.80 8.09 8.09 7.97 7.10 10.12 2.33	101.70 13.10 0.03 340.90 22.10 6.40 6.60	0.02
15.06 49.14 7.22 18.17 16.81 7.15 10.03 0.32 1.90	1200.00 10.00 10.00 380.00 40.00 20.00 10.00 10.00	0.02
99.1 99.1 100.0 91.5 100.0 100.0 100.0 100.0 13.0 73.3	24.2 65.8 96.4 190.0 98.1 24.4 28.1 28.1	78.0
211 220 220 204 204 222 224 219 194 186	196 30 220 267 267 171 171 65 65	157
213 220 223 223 224 224 226 226 226 227 77	264 47 233 267 267 266 266 267	227
100.0 100.0 100.0 100.0 100.0 100.0 100.0 80.0 8	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	80.0
************	9-8998	**
N N N * * N N N N N N	@-ne@@@@	an an
22.00 62.00 8.30 21.50 7.28 12.00 1.79 8.30	1300.00 10.00 0.02 400.00 30.00 10.00 10.00	0.03
11.30 42.00 6.80 14.30 13.40 7.70 0.48 1.80 5.60	1100.00 10.00 0.01 390.00 30.00 10.00 10.00 10.00	0.02
	ONT-MOH ONT-MOH ONT-MOH ONT-MOB ONT-MOB ONT-MOH ONT-MOH	ONT-MOR
	75.00 5.00 9.20 39.500 25.00 5.00 0.20	90.0
000000000	0000000	20
השלה. השלה השלה השלה השלה השלה השלה השלה השלה		33
DAY -TOTAL DEMAND ICAL OXYGEN DEMAND LYED ORGANIC CARBON BNUM_TOTAL FILT REAC. GEN-TOT-KIEL, UNF-TOT TH-(CONCN) UN; PARTICOLLATE TH-JT. REACT. THS, TOTAL FILT REAC.	ALUMINUM, UNPIL, TOTAL, COPPING, UNPIL, TOTAL, STRONTIUM, UNPIL, TOTAL, ZINC, UNPIL, TOTAL, COBALT, UNPIL, TOTAL, COBALT, UNPIL, TOTAL, COBALT, UNPIL, TOTAL, CADMIUM, UNPIL, TOTAL, CADMIUM, UNPIL, TOTAL, CADMIUM, UNPIL, TOTAL, MOLY BIDENUM, UNPIL, TOTAL,	IS, HERBICIDES, PCBS GAMMA-BICGESCEGORCYCLIEXANE) 2,4-DICH, OROPHENOXYAGYTIC ACID
CONVENTIONALS BODS BOD; COD CHEM DOC DISSO NNITPR AMMG NNITRUR NITRO PH (1.00G) PH (1.00G) NNOOPR NITRA NNOOPR NITRA NNOOPR NITRA NNOOPR NITRA	METALS ALUT CUUT HIGUT SRUT SRUT COUT COUT NUT COUT	PESTICIDE PIBHCG P324D

PLANT NAME: Oakville (Southeast)
PLANT TYPE: Secondary

SAMPLING TYPE: Raw Studge SAMPLE FORM: Dry Weight

GLOBAL % PREV. 85.3 67.7 47.1 50.0 52.9 52.9 93.9 93.9 90.0 90.0 90.0 GLOBAL SPREAD FACTOR 3.00 2.00 2.24 3.24 3.40 22.50 PLANT SPREAD FACTOR 0.00 88888888 GLOBAL GEO. MEAN 9.74 9.29 301.43 606.31 2.23 5.80 59.17 173.99 3.04 231.70 116847.30 8.90 6.00 7.30 47.30 82.34 32783.51 20803.05 5911.32 25.44 36897.85 192221.45 52000.00 1.20 5.20 48.00 52.00 12.00 16.00 12.00 12.00 48.00 3.60 1.76 15.60 15.200 GEO. MEAN 32.00 6.35 240.00 25000.00 12069.00 144000.00 00'00091 \$2000.00 3600.00 GLOBAL FREQ. DET. 89.6 89.6 80.0 80.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0 98.0 35.3 37.3 43.1 45.1 82.3 GLOBAL DET 12 5 SAMPLES GLOBAL 2 2 555555 % FREQ. DET. 100.0 100.0 0.00 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 SAMPLES UNITSQA/QC PLANT PLANT (DRY CODE MIN. CONC. MAX. DET. VEIGHT) > DL CONC. 13600.00 52000.00 1.76 15.60 15.00 364.00 1.20 5.20 48.00 52.00 2.80 312.00 348.00 12.00 16.00 16.00 12.00 48.00 6.35 240.00 25000.00 12069.00 32.00 46000.00 52000.00 1144000.00 13600.00 32.00 46000.00 1.76 15.60 152.00 364.00 5.20 48.00 52.00 12.00 16.00 12.00 48.00 6.35 240.00 25000.00 12069.00 00 ug/kg 33333 \*\*\*\*\*\*\* BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS GAMMA-BHC(HEXCHG,ORCYCI,HEXANE) ug Al Pita-Chg,ordane GAMMA-Chi,ordane PCB, TOTAL, ug PCB, TOTAL, ug PCB, TOTAL, ug SH,VEX CHEMICAL OXYGEN DEMAND AMMONIUM, TOTAL FILT REAC. MOLYBDENUM, UNFILT TOTAL NITRATES, TOTAL, PILT, REAC. NITROGEN-TOT-KIEL, UNF. TOT SELENIUM, UNFILT. TOTAL STRONTIUM, UNFILT. TOTAL ZINC, UNFILT. TOTAL RESIDUE, TOT LOSS ON IGNI. CHROMIUM, UNFILT. TOTAL ALUMINUM, UNFILT. TOTAL. CADMIUM, UNFILT TOTAL MERCURY, UNFILT TOTAL. NICKEL, UNITI. T. TOTAL. ARSENIC, UNFILT. TOTAL. COBALT, UNPILT. TOTAL CONTAMINANT NAME COPPER, UNPILIT TOTAL LEAD,UNFILT.TOTAL. PESTICIDES, HERBICIDES, PCBS PHENOLICS (4AAP) (-LOG(H+(CONCN)) RESIDUE, TOTAL M-CRESOL. PHENOL. CONVENTIONALS CONTAM. PMMCRE PIBLICG PICHLA PICHLG PIPCBT PIPPDE PIPPDE NNOTER NNTKUR PH METALS COD PI INOL RST RSTLOI INANI MOUT 70.1A CDAIT COUT CUUT ROLL

SAMPLING TYPE: Treated St	SAMPLE FORM : Dry Weight	
Oakville (Southeast)	Secondary	
	PLANT TYPE : S	

CONTAM-	CONTAMINANT NAME	UNITSQ (DRY C) WEIGHT)	UNITSQA/QC PLANT (DRY CODE MIN, CONC. (EIGHT) > DL	NT PLANT DNC. MAX. DET. L. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLORAL.	GLOBAL.	GLOBAL. * PREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL.	
CONVENTIONALS	TONALS															
COD	CHEMICAL OXYGEN DEMAND	mg/kg	0 683908.05	3	1	~	100.0	36	36	100.0	683908.05	508097.94	0.00	4.65	100.0	
NULLINA	AMMONIUM,TOTAL, FILT. REAC.	mg/kg	0 15919.54	159	-	-	100.0	25	2.5	0.001	15919.54	17658.28	0.00	2.92	100.0	
NNOITE	NITRATES, TOTAL FILT. REAC.	mg/kg				-	0.001	56	23	88.5	34.48	42.68	0.00	2.39	95.0	
NNTKUR	NITROGEN-TOT-KUEL, UNIT TOT	mg/kg	4396	4396	~	_	0.001	64	49	100.0	43965.52	38494.12	0.00	1.1	100.0	
B	(-I.OC(II+(CONCN))	mg/kg				-	100.0	47	47	0.001	7.33	7.17	0.00	1.09	0.001	
RST RSTLOI	RESIDUR, TOTAL. RESIDUR, TOTALOSS ON IGNE.	mg/kg mg/kg	0 34800.00	0 34800.00			100.0	2 2	2 02	100.0	34800.00	43379.33	0.00	3.19	0.001	
METALS																
AGUT	SII VER,UNER,T.TOTAL.	mg/kg	0 24.43	3 24.43		-	0.001	\$	44	0.001	24.43	37.78	0.00	2.33	0.001	
ALUT	ALUMINUM, UNITL'I TOTAL.	mg/kg	6321	6321	-	-	0 001	90	20	0.001	63218.39	10715.94	00.00	282	0.001	
ASIJT	ARSENIC, UNFILT TOTAL.	mg/kg			-	-	0 001	20	40	0.00	3.74	5.40	0.00	2.06	97.1	
CDUT	CADMILIM, LINFII, L'TOTAL.	mg/kg					0.001	45	4 5	1.16	3.16	10.47	00.0	3.98	90.3	
2002	COBALLON III. TOTAL	merk	0 21.84				100.0	6 5	75	1.79	178 14	11106	8.6	2.13	1000	
CRUI	CAMBER PARTIEST OF ALL						0.001	45	45	0 001	545 9H	732.24	000	2.16	1000	
HGILL	MERCHRY UNFILL TOTAL	a Value	0 230	2.30			100.0	20	49	0.86	230	3.24	0000	2.04	97.1	
MOLT	MOLYBDENUM UNFILT TOTAL	mg/kg	0 7.76		-	-	100.0	34	23	67.7	7.76	6.41	00.00	2.84	69.2	
TUIN	NICKEL, UNITE IT TOTAL.	mg/kg	0 86.21		-	-	100.0	45	42	93.3	86.21	72.95	0.00	2.95	0.06	
PRUT	LEAD, UNFILT TOTAL.	mg/kg	0 11494	=	_	-	0 001	20	49	0 86	114.94	196 62	0.00	2.46	97.1	
SHUT	SELENIUM, UNFILLTOTAL.	Ing/kg			_	-	100.0	20	87	0.96	3.74	2.67	0000	2.98	1.00	
SRIT	STRONTIUM, UNITED TOTAL.	mg/kg	431.03	431.03			0.000	20	2 5	0.000	4 51.03	0088 00	8.6	7.7	0.001	
ION	ANC, UNITED IN	m No.			-	-	100.0	2	3	0.000	11.60	2000				
DIOXINS	DIOXINS AND FURANS															
P98CDD	OCTACH ORODIBENZOBIOXIN	ug/kg	1 2.10	017 010	-	-	0 001	64	36	53.1	2.10	7.10	00:00	3.84	64.7	
PESTICID	PENTICIDES, HERBICIDES, PURS													•		
4 1187	(III A VISION III P.		0, 21	01 20		-	0001	Ş	33	0 77	17 20	0.50	0000	2.41	55.9	
PICHO	ALTIA CHLORDANE GAMMA CHLORDANE	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					100.0	20 05	21	42.0	17.20	6.80	00.0	2.58	\$2.9	
PLINTBT	PCB, TOTAL.	ug/kg	2 117.80		-	-	100.0	30	32	0 10	117 80	114.10	00:00	4.58	67.7	
PIPPOR	PP DDE	ug/kg					0 001	00 00	34	12.0	402 30	11.10 84 40	8 8	3.13	41.2	
P324D	2,4,5-1 RICLORPHENOX YACETIC ACID 2,4-DIGH-OROPHENOX YACETIC ACID	S S S	3 1293.10	0 1293.10			100.0	30	25	80.0	1293 10	75.00	00'0	5.81	64.7	
P3SII.V	SILVEX	S S	3 186.80		-	_	0.001	90	80 -	360	186 80	92.70	0.00	2.2	44.1	
X2124	1,2,5 PRICHI OROBENZENE	ug/kg	3 14,40		-	_	0 001	20	22	44.0	14.40	14.80	0.00	20.5	675	

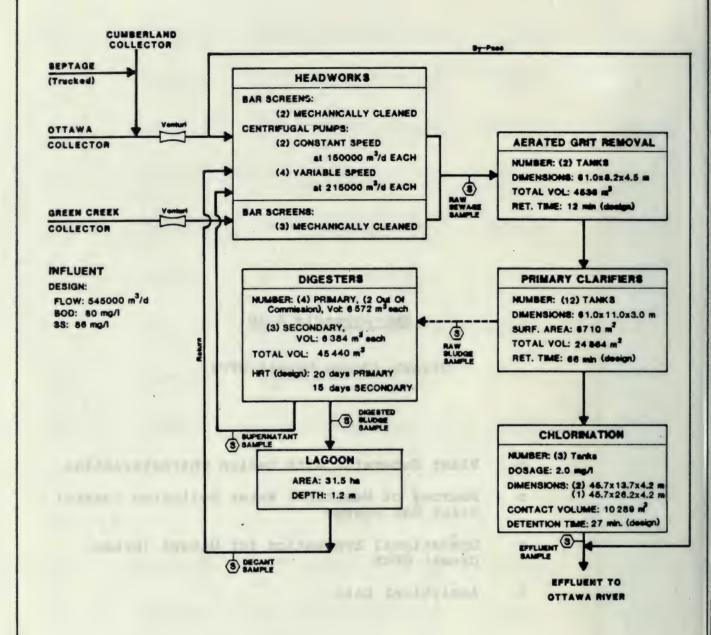
THE OWNER OF THE PARTY NAMED IN 

### Sub-Appendix A-20

Ottawa (Green Creek) WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- O Operational Evaluation for Ottawa (Green Creek) WPCP
- o Analytical Data



- Approximately 20 treaks of captage, 138000 i, is discharged to the Cumberland Collector per day.
- Plant personnel feel that the recorded flow is approximately 10% greater than the actual flow.
- 3. New Chlorine Contact Chember in use at time of study (vot 5029 m²). Existing chembers under repeir.
- 4. Two of the Primary Digesters were not in use at the time
- Two of the twelve Primary Clariflers were set of service at time of sampling.

# OTTAWA (GREEN CREEK) WPCP

# SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

# GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE	GREENS CREEK WPCP 120000729 PRIMARY PHOSPHORUS REMOVAL CONTINUOUS
	363.680
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	3
COMMERCIAL SOURCES (%) (Population x 0.0757)	8
RESIDENTIAL SOURCES (%) (Population x 0.175)	19
UNACCOUNTED FOR, INCL. INFILTRATIO (100-% Contributed from industrial, commercial and residential sources)	N 70
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES	450
INDUSTRIES WITH WATER	211
NO OF SIC CATEGORIES	40

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	SIC	# OF COMPANIES
PRINTING AND PUBLISHING BEVERAGES MACHINERY MFG DAIRY ELECTRICAL & ELECTRONIC COMPONENTS	2700-2799 2082-2087 3500-3599 2021-2026 3612-3690	2 9 45 5 2

#### OPERATIONAL EVALUATION FOR: DITIANA (GREEN CREEK) WPCP

TREATMENT FACILITY: Primary

PERIOD ENDING: July 19,1987

SAMPLING SEASON:

Summer (Warm Weather)

DESIGN AVE FLOW:

545,000 m3/d

	(10)	100		PRE-SA	MPLING PER	100		
1	PARAMETER	DAY 1	DAY 2	DAY 3	DAY 4 :	DAY 5 1	DAY 6	DAY 7
	RAW SEWAGE FLOW		i	412,000	A15 000 1	411 000 I	413 000 !	TOA 000
1	NAW DEMADE FLOW			112,000 1		711,000 1		377,000
	% of Design Flow		1	75.601		75.412		
1	Influent BOD (mg/L)		-		 	70.0	105.0	
1	Primary BOD (mg/L)		1	- :	;	28.0 :	39.0 1	
1	Secondary BOD (mg/L) 2 PRIMARY REMOVAL				1	(0.0.1	62.9 1	
8	2 SECONDARY REMOVAL					60.0 1	02.7 1	
	Influent SS (mg/L)			74.0	84.0 1	92.0 (	72.0	68.0
1	Primary SS (mg/L)		1	23.0	36.0 :	45.0	19.0 1	18.0
*	Secondary SS (mg/L)						!	
	1 PRIMARY REMOVAL 1 SECONDARY REMOVAL		1	68.9	57.1 :	51.1 1	73.6	73.5
!	4 SECONDHAT KENUVAL		-					
	Influent NH4 (mg/L)					i	i	
1	Primary NH4 (mg/L)		1	1	8	1		
1	Secondary NH4 (ag/L)		1	1	1	;	1	
	Z PRIMARY REMOVAL				;		19	
-	% SECONDARY REMOVAL		i -!	i !!	i !	!	i !	
	Influent TKN (ag/L)					1	1	
	Primary TKN (mg/L)		1		1	1	:	
1	Secondary TKN (mg/L)		1	1	1	3	1	
1	Z PRIMARY REMOVAL		1	1	1	1	:	
	Z SECONDARY REMOVAL				1	1	1	
-	Influent Total P (mg/L)		-;	2.9	3.0	3.1	2.8 :	2.7
	Primary Total P (mg/L)		1	2.5	2.6	2.7 :	2.3 1	2.7
	Secondary Total P (mg/L)			2.5	2.0	1	1.5	2.2
	% PRIMARY REMOVAL		1	15.3	13.6 :	14.6	16.7 ;	16.1
1	Z SECONDARY REMOVAL		!		1	1	1	

#### DITANA (GREEN CREEK) NPCP

TREATMENT FACILITY: Primary

PERIOD ENDING: July 19,1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 545,000 a3/d

1				PRE-SA	MPLING PER	100		
2 2 2 5		DAY 8 - 1						DAY 14
						***************************************	**********	
1 1 1 1 1 1	RAN SEWAGE FLOW	405,000		393,000			424,000	
1 1 1	2 of Design Flow	74.3121	74.50%	72.117	63.491	79.632	77.80%	73.392
	Influent BOD (ag/L)			90.0	86.0			
2 2	Primary BOD (mg/L) : Secondary BOD (mg/L) :	;	1	39.0 :	26.0	1	8 8 8	
	Z PRIMARY REMOVAL :	<b>!</b>	8 0 1	56.7	69.8 1	2 2	8	
2	Influent SS (ag/L)			98.0	98.0			2.5
2 2	Primary SS (mg/L) Secondary SS (mg/L)	;	:	59.0 ;	;	;	1	1.8
	I PRIMARY REMOVAL	1	8 9	39.8 :	66.3 1	1	1	28.0
	Influent NH4 (æg/L)							
9 9	Primary NH4 (mg/L) Secondary NH4 (mg/L)	1	:	3 3	;	1	:	
2 2 2	Z PRIMARY REMOVAL Z SECONDARY REMOVAL	9	2 2 2		4	1	4 1	
-	Influent TKN (mg/L)		1	; !				
8 8	Primary TKN (mg/L) Secondary TKN (mg/L)	2 2	:	;	;	:	1	
8 2 2	I PRIMARY REMOVAL I SECONDARY REMOVAL	9 8	8	;	5 6 8	1	1	
-	Influent Total P (mg/L)		:	3.4				2.5
2 2 2	Primary Total P (mg/L) : Secondary Total P (mg/L) :	2	3 1 2 8	3.2 1	1	2 2	1	1.8
:	7 PRIMARY REMOVAL	1	1 1	7.6 :	19.0 :	2	;	28.0

#### OTTAWA (GREEN CREEK) WPCP

TREATMENT FACILITY: Primary

PERIOD ENDING: July 24,1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: 545,000 m3/d

			SAMP	LING PERIO	D		
PARAMETER	DAY 15	DAY 16 ;	DAY 17 ;	DAY 18 :	DAY 19 :	DAY 20 1	DAY 21
RAW SEWAGE FLOW	425,000	421,000	425,000	446,000	450,000	460,000	422,000
% of Design Flow	77.98%	77.25%	77.982	81.83%	82.57%	84.40%	77.43
Influent BOD (mg/L)		50.0	85.0	57.0 1			
Primary BOD (eg/L) Secondary BOD (eg/L)		29.0 1	34.0	27.0		i	
Z PRIMARY REMOVAL Z SECONDARY REMOVAL		42.0	60.0	52.6		1	
Influent SS (mg/L)	113.0	89.0	111.0 (	65.0	42.0	55.0	46.0
Primary SS (ag/L)	20.0 1	30.0 1	15.0	27.0 1	14.0 :	11.0	20.0
Secondary SS (mg/L) 2 PRIMARY REMOVAL	82.3	66.3 1	86.5	58.5 (	66.7 1	80.0 ;	56.5
Z SECONDARY REMOVAL	02.3	1	00.3	10.0	1	1	20.0
Influent NH4 (mg/L)		i		;	i	i	
Primary NH4 (mg/L)	! !	1	;	1	:		
Secondary NH4 (mg/L) Z PRIMARY REMOVAL	i i	:	1	1	1	i	
Z SECONDARY REMOVAL							
Influent TKN (mg/L)			i		i		
Primary TKN (mg/L)	:	;		1	1	;	
Secondary TKN (mg/L) 2 PRIMARY REMOVAL	i i	i į	1	i	1	i	
X SECONDARY REMOVAL			3	1		1	
Influent Total P (mg/L)	2.8	2.6	3.2 1	2.9	2.7 1	2.8	2.6
Primary Total P (mg/L) Secondary Total P (mg/L)	1.9	2.4 :	2.2 !	2.3 1	2.3 !	2.2	2.5
Z PRIMARY REMOVAL	31.2	9.1	33.2 1	22.0	16.0 ;	20.4	5.8

	PLANT TYPE : Ottawa (Green Creek)	AME :	Ottaw	va (Green ery	Creek)					SAMPL	SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight	: Raw Sewage	ewage			
CONTAM-	CONTAMINANT NAME	UNITS QC	CODEM	QC PLANT PLANT CODE MIN. CONC. MAX. BET. > DL CONC.	PLANT MAX. DET. CONC.	FLANT # SAMPLES	PLANT # DET.	% FREQ.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
PARTITION	CONTRACTOR															
CONVENT	IONALS.											1				
80DS	BOD, S DAY -TOTAL DEMAND	M.	00	23.20	91.00	en e	<b>%</b> *	100.0	767	266	99.6	100.06	287.75	1.79	1.93	0'001
COD	CHEMICAL, OX YGEN DEMAND	me		00.48	15.00	n v	n •	100.0	122	200	1000	12.83	27.13	113	181	1000
NNIFTER	AMMONIEM TOTAL FILT REAC	meA.		9.50	13.00	9	'n	100.0	275	274	9.66	11.16	15.37	1.14	1.69	0001
NNTKUR	NITROGEN-TOT-KUEL, UNP. TOT	me/L		14.00	16.00	×	w	100.0	273	273	100.0	15.22	25.44	1.06	1.47	100.0
H	(-LOG(H+(CONCN))			6.41	6.54	<b>8</b> 0 i	90	100.0	275	275	100.0	6.49	06'9	1.01	1.05	100.0
PPCT	PHOSPHORUS, UNFILT TOTAL	me L		2.60	2.90	en e	en w	100.0	248	248	100.0	2.75	5.18	1.05	151	0.001
RSP	RESIDUE, PARTICULATE	me/	0 0	35.00	\$0.10	n w	n w	100.0	100	80	0.80	15.00	100.88	1 30	1.93	0000
PINOL.	PIENOLICS (4AAP)	T Su		16.00	16.00	n wn	۰ -	20.08	275	37	13.5	0.57	0.31	6.42	2.05	37.8
METALS																
CRUT	CIBOMBIM UNEB T TOTAL	us/L		30.00	40.00	9	9	100.0	322	237	73.6	30.00	51.10	1.16	3.44	89.2
CULT	COMPER, UNITE, T. TOTAL.	5		50.00	20.00	-	-	100.0	49	48	0.86	90.00	110.60	000	2.28	97.1
HGUT	MERCURY, UNFILT TOTAL.	ue.		01.0	0.18	87	8	100.0	283	274	8.98	0.14	0.23	1.27	2.11	0.001
SRUT	STRONFIUM, UNFILT. TOTAL.	5	0	360.00	410.00	vo v	• •	100.0	319	318	7:06	390.00	370.70	1.05	2.14	0.001
TON	ALTMINIM INDIAL TOTAL	ne/		230.00	470.00	0 0	0 4	66.7	322	306	95.0	200.00	1000.10	181	2.65	97.3
AGUT	SILVER UNFILT TOTAL	Len		10.00	20.00	9		80.0	321	82	25.6	10.00	10.40	1.76	2.55	75.7
NRT	NICKEL, UNFILT. TOTAL. COBALT, UNFILT. TOTAL	22		30.00	30.00	00	- 2	33.3	322	103	32.0	30.00	38.80	2.08	2.70	54.1
BASENEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SGNDO														
PMMCRE	M-CRESOL	ne.	-	17.50	28.60	80	3	0.09	27.5	191	60.7	17.58	25.59	243	3.45	86.5
PESTICIDA	PESTICIDES, HERBICIDES, PCBS															
20000	200				8		•	0 07	300	9			70.0	9 7 6		
P32AD	SILVEA 24-DICHLOROPHENOXYACETIC ACID	33	n m	0.33	0.33	n w	٧-	20.0	276	214	77.5	0.04	0.13	3.50	3.72	100.0
VOLATILE	VOLATILES ORGANIC COMPOUNDS															
XITETIX	TETRACHLOROETHYLENE	U.S.A.	_	00:09	90.09	S.	-	20.0	274	12	4.4	24.91	21.51	1.63	1.53	18.9

PLANT NAME: Ottawa (Green Creek)
PLANT TYPE: Primary

SAMPLING TYPE: Final Effluent SAMPLE FORM: Wet Weight

ب	> 1	100.0 100.0 100.0 100.0 100.0 100.0 57.1	100.0 100.0 100.0 100.0 100.0 88.7 88.7 11.4 57.1 11.4	411	57.1	85.7 85.7 85.7 42.9
GLORAL	% PREV.					
GLOBAL	SPREAD	205 1.56 1.46 1.30 1.30 1.73 1.73 2.01	3.45 1.85 2.42 2.42 2.83 3.04 1.94 1.96 1.96 1.96 1.56 1.56 1.56	297	219	272 284 3484 3484 350
MANT	SPREAD	2.55 1.30 1.13 1.13 1.109 1.109 1.119 1.115 5.85	1.20 0.00 0.00 1.03 1.03 1.43 1.13 1.13 1.13 1.13 1.13 1.14	273	1.71	1.47 12.83 1.42 1.58 3.46
	GEO.	48.40 108.54 10.46 10.46 6.88 1.34 29.57 28.16 0.06	550.00 18.20 0.05 304.50 69.80 10.80 6.40 6.50 2.50 2.50 2.50 2.50 2.50 2.50	330	0.03	207 439 183 194 171
	GEO. MEAN	22.47 84.78 11.60 10.63 13.50 6.50 2.28 18.22 15.42 0.11	130.00 20.00 0.08 380.00 380.00 20.00 10.00 10.00 10.00 10.00	Ę	003	4.90 5.99 1.17 1.74
210001	FREQ.	100.0 100.0 100.0 100.0 100.0 100.0 100.0 17.5	95.8 87.5 97.4 97.6 100.0 16.7 22.9 22.9 22.9 22.9 18.8	46.2	22	39.5 26.3 34.2 34.2 44.2
	DET.	6666667	46 7 7 7 7 7 7 8 8 8 8 8 8 8 8 8 9 9 9 9 9	=	ø.	115 10 13 13
	GLOBAL # SAMPLES	\$ \$ \$ \$ \$ \$ \$ \$ \$ 5 \$	8 × 5 8 × 8 × 8 × 8 × 8 × 8	38	94	86 80 80 80 80 80 80 80
	PLANT % FREQ. DET.	100.0 100.0 100.0 100.0 100.0 100.0 20.0	100.0 100.0 100.0 100.0 100.0 83.3 86.7 16.7 16.7	0.0	20.0	100.0 20.0 20.0 20.0 20.0
į	PLANT # DET.		Ø = 8 Ø Ø 8 4 6 = = = =	e	(17()	श ले = = =
	PLANT # SAMPLES	A) AD AD AD AD AD AD AD AD	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$	w	'n	N N N N N
	PLANT IAX. DET. CONC.	59.00 133.00 133.0 113.0 114.90 6.73 22.60 22.60	160.00 20.00 0.09 410.00 80.00 30.00 10.00 20.00 20.00 20.00 20.00 40.00	12.70	000	8.00 240.00 2.20 2.80 16.00
	PLANT PLANT MIN. CONC. MAX. DET. > DL CONC.	8.20 62.00 10.70 9.05 12.10 6.16 2.03 14.80 12.80	100.00 20.00 0.08 340.00 10.00 10.00 10.00 20.00 20.00 40.00	430	60'0	3.20 32.00 2.20 2.30 16.00
			ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE	jiya.	(CONTRACTOR	NYS-GUL NYS-GUL ONT-MOB NYS-GUL
PLANI IYFE : Frimary	QC STD. FOR STD. REP. CODE. SURFACE NATER	000	75.00 5.00 37.50.00 30.00 30.00 100.00 0.110 5.00 25.00			0.20 0.70 100.00 3.00
		00000000	0000000000	-,	e	
PLAN	CODE	mg/L mg/L mg/L mg/L mg/L mg/L	יים מיים איים מיים א	OMFOUNDS	Z.	Legal Land
	CONTAMINANT NAME	BOD, S DAY -TOTAL DEMAND DISSOLAED OXYGEN DEMAND DISSOLAED ORGANIC CARBON DISSOLAED ORGANIC CARBON NUROCHECONEN) THAT REAC. NITROGEN-TOT-KJEL, UNF-TOT CLOCKHECONEN) THE TITLE RESIDUE, PARTICULATE RESIDUE, PARTICULATE RESIDUE, PARTICULATE PHENOLICS (AAAP)	ALUMINUM, UNFILTTOTAL COPPER, UNFILTTOTAL MERCURY, UNFILTTOTAL STRONTHUM, UNFILTTOTAL CHROMIUM, UNFILTTOTAL SILVER, UNFILTTOTAL COBALT, UNFILTTOTAL CADMIUM, UNFILTTOTAL MOLYBORIUM, UNFILTTOTAL	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS PAMCRE M-CRESOL	PESTICIDES,HERBICIDES,PCBS PSSILV SILVEX	VOLATILES ORGANIC COMPOUNDS  XIGHLO CHLOROPORM XITEIR TETRACHLOROETHYLENE BAMEYY M., AND PXYLENES BOXYL O-XYLENE XITRIC TRICHLOROETHYLENE
	٥	NALS SOD, 5 DA GHENICA DISSOLVE AMMONI TRROGE H-LOCKHH PHOSPHO RESIDUE, RESIDUE,	ALUMIN COPPER, MERCUR STRONTI CHROMI SLVER, COBALT, CADMIU MCLYBU	RAL ANI M-CRES	SILVEX	S ORGANIC CON CHLOROFORM TETRACHLORG M., AND P.XYLL O-XYLENE TRICHLOROET
	CONTAM- INANT	CONVENTIONALS BOD5 BOD5 COD CHEM COD DISSO NNHTRR AMMK NNTRUR NITRO PRUT PHOST PRUT PHOST RESED RESED PRUT RESED PRUT PHOST	METALS ALUT CUUT HGUT SRUT ZNUT ZNUT COUT COUT COUT COUT COUT NIUT NIUT	BASE NEUTRAL AND AN PAMCRE M-CRESOL	PSSILV	VOLATILE XIGHLO XITER B2MPXY B20XYL XITRIC

PLANT NAME: Ottawa(Green Creek)
PLANT TYPE: Primary

SAMPLING TYPE: Recycle SAMPLE FORM: Wet Weight

				-													
CONTAM- INANT	CONTAMINANT NAME	CODI	OCC	QC PLANT CODE MIN. CONC.	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	FLANT S. FREQ. DET.	GLOBAL #	GLOBAL	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.	
CONVENTIONALS	IONALS																
BODS	BOD, 5 DAY -TOTAL DEMAND	med	0	302.00	335.00	2	7	100.0	20	20	100.0	318.07	905.21	1.08	2.32	0'001	
COD	CHEMICAL OXYGEN DEMAND	meA	0 0	300.00	198 00		5"	100.0	39 42	39	100.0	177.46	77.62	0.00	3 3	0000	
NNITTER	AMMONIUM, TOTAL, FILT REAC.	me/L	0	280.00	594.00			100.0	4	4	100.0	460.20	146.20	1.54	207	100.0	
NNO2FR	NITRITE, FILT. REACT.	mal	0	0.11	0.18	3		100.0	42	36	85.7	0.13	0.05	1.28	3.13	100.0	
NNOTHR	NITRATES, TOTAL FILT. REAC.	meA.	0	0.70	1.30	en e	m :	100.0	1:	39	988.6	10.0	324.26	141	2.66	0000	
NNTKUR	NITROGEN-TOT-KIEL, UNP. TOT	meA	o c	338.00	07.7	9 6	~ ~	0.001	7 7	7 4	1000	7.29	5.04.08	106	1.95	1000	
PPUT	PHOSPHORUS, UNFILT TOTAL	mg/L	0	16.30	53.50	n m	. ~	100.0	43	£3	100.0	34.96	53.83	3.	4.47	100.0	
RSP	RESIDUE, PARTICULATE	med	0	424.00	542.00	3		100.0	42	42	100.0	482.24	7242.TT	1.13	3.60	100.0	
RSPLO	RESIDUE, PARTOSS ON IGNI.	me/L	0	314.00	355.00	m e	m (	100.0	13	13	100.0	335.57	1312.86	907	2.47	100.0	
MINOL	PHENOLICS (4AAP)	m/V	0	4.60	9.10	n	2	8.7	\$	-	25.0	2.19	0.41	0.73	3.16	35.6	
METALS													,				
AGUT	SILVER, UNFILT. TOTAL.	Non	0	30.00	00.09	4	*	100.0	53	42	79.3	40.00	72.30	1.43	4.09	100.0	
ALUT	ALUMINUM, UNHILT TOTAL	u.V.	0	3500.00	8000.00	•	*	100.0	53	53	0.001	4930.00	28798.20	1.48	4.42	100.0	
CAUT	CALCIUM,UNFILLTOTAL	new men	0 0	80.00	130.00	• •	• •	100.0	X 5	ž G	96.2	141030.00	874 70	1.40	12/	1000	
Cult	COPPER UNFILT TOTAL	nev.	0	330.00	330.00	+	-	100.0	12	12	100.0	330.00	1814.00	000	2,00	1000	
PEUT	IRON,UNFILT.TOTAL	100	0	16000.00	24000.00	*	*	100.0	53	53	100.0	18480.00	109943.30	1.21	4.19	0'001	
HOUT	MERCURY, UNFILT, TOTAL	ue.	0	0.41	0.53	6	3	100.0	47	2	93.6	0.45	1.68	1.15	4.49	0.001	
MGUT	MAGNESIUM, UNFIL, T. TOTAL.	ug/L	0	21000.00	33000.00	4	*	100.0	3,1	Z.	100.0	27850.00	41620.20	1.22	1.78	100.0	
NOT	NICKEL, UNFILT TOTAL	u.C.	0 0	90.00	90.00	<b>+</b> •	4 1	100.0	53	14 5	17.4	70.00	308.60	1.29	3.08	688.9	
ZNIT	ZINC LINES T TOTAL	1	0 0	250.00	130.00	• •	• •	100.0	41	50	0.001	280.00	3112.40	177	741	100.0	
CONT	COBALT UNFILL TOTAL	L'en	0	10.00	30.00	•	- 64	0.08	53	23	39.6	10.00	23.60	2.11	463	88.0	
CDCL	CADMIUM,UNFILT.TOTAL.	Lan.	0	10.00	10.00	*	-	25.0	53	37	8.69	10.00	58.40	1.48	6.63	77.8	
MOUT	MOLYBIXENUM, UNPILT. TOTAL.	Len.	0	20.00	20.00	*	-	25.0	35	18	33.3	10.00	35.60	1.41	4.15	77.8	
PBUT	LEAD, UNFILT. TOTAL	Nan	0	150.00	150.00	4	-	25.0	53	36	619	70.00	429.50	1.73	6.62	100.0	
PESTICIDA	PESTICIDES, HERBICIDES, PCBS																
PIPCBT	PCB, TOTAL	Nan.	24	1.30	2.90	m :	. 19	66.7	4:	77	61.4	1.15	0.77	271	7.58	17.8	
PIENDI	ENDOSULPAN I	33	4 en -	0.20	0.20	n en e		33.5	: # :	· m (	6.8	0.13	0.00	149	333	33.3	
MAN	N-DDD	To a	-	0.43	0.43	<b>~</b>	_	33.3	‡	01	1.77	0.16	0.03	252	7.86	8.7	

PLANT NAME: Ottawa (Green Creek)
PLANT TYPE: Primary

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight

1										
GLOBAL % PREV.		190.0 93.9 100.0 100.0 100.0 100.0		100.0 100.0 1.79 100.0	100.0 93.3 96.9 100.0		85.3	10	4.67	
GLOBAL SPREAD FACTOR		4.59 2.28 2.28 1.10 3.54 4.43 1.81 1.77		2.5 2.5 3.5 3.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2	2.30 2.34 2.34 2.39		12.16		3.18	
PLANT SPREAD FACTOR		000000000000000000000000000000000000000		000000	0000000		0.00		0.00	
GLOBAL GEO. MEAN		5911.32 25.44 36897.85 6.03 82.34 20347.70 32783.51 20803.05		30.17 9835.74 9.74 301.43	223 59.17 173.99 231.70 905.39		116847.30		88.70	
PLANT GEO. MEAN		3126.67 28.33 30833.33 4.73 400.00 8433.33 30000.00		43.33 3333.33 5.33 126.67	267 14.67 90.00 123.33 316.67		400000.00		66.70	
GLOBAL % FREQ. DET.		97.9 89.6 100.0 100.0 100.0 100.0		93.0 93.0 98.0	98.0 100.0 100.0		82.3		78.4	
GLOBAL # DET		2 2 4 4 5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		5252	\$ 8 <b>\$ \$</b> 2 2	MT.	42	,	40	
GLOBAL.		\$ \$ 2 \$ \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5		\$2.52	\$ 8 <b>\$</b> \$ 2 5	Unit	15		15	
PLANT % FREQ.		100.0 100.0 100.0 100.0 100.0 100.0		100.0	100.0 100.0 100.0 100.0		100.0		100.0	
PLANT # DET.						ž.	-		-	
PLANT # SAMPLES						13 1	-		-	
MAX. DET. CONC.		3126.67 28.33 30833.33 4.73 400.00 8433.33 30000.00	311	43.33 3333.33 5.33 1.26.67	296.67 2.67 14.67 90.00 123.33	10.015	400000.00		06.70	
		3126.67 28.33 30833.33 4.73 400.00 8433.33 30000.00 22200.00		43.33 3333.33 5.33 126.67	296.67 2.67 14.67 90.00 173.33	10.01	400000.00		66.70	
UNITSQA/QC PLANT (DRY CODEMIN. CONC. WEIGHT) > DL.		mg/ks 0		Hg/kg 0 Hg/kg 0 Hg/kg 0	mg/kg 0 mg/kg 0 mg/kg 0 mg/kg 0 mg/kg 0	mg/kg 0	nghg 1		ug/kg 2	
CONTAM: CONTAMINANT NAME	ONALS	AMMONIUM,TOTAL, FILT REAC. NITRATES, TOTAL, FILT REAC. NITROGEN-TOTALEL, UNF.TOT FLOCKHE(CONCN) PIENOLICS (KAAP) PIENOLICS (KAAP) PIENOLICS (LAAP)		SB.VER,UNFILT.TOTAL. ALUMINUM,UNFILT.TOTAL. CADMIUM,UNFILT.TOTAL. CIROMIUM,UNFILT.TOTAL.	COPPER, UNFILT TOTAL MERCERY, UNFILT TOTAL NICKEL, UNFILT TOTAL LEAD, UNFILT TOTAL STRONTIUM, UNFILT TOTAL	ENUT ZINC, UNFU, TTOTAL MEMA BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	M-CRESOL.	PESTICIDES,HERBICIDES,PCBS	PCB, TOTAL.	
CONTAM- INANT	CONVENTIONALS	NNITTR NNOTTR NNTKUR PH PHUT PRUT RST	METALS	ALUT	CUUT HGUT NILT PBLT SRUT	ZNUT BASE NEU	PMMCRE	PESTICID	PIPCBT	

	PLANT NAME	NAME: C	PLANT NAME: Ottawa (Green PLANT TYPE: Primary	een Creek)					SAMPL	SAMPLING TYPE: Treated Sludge SAMPLE FORM: Dry Weight	E : Treated Sh : Dry Weight	ed Sludge			
CONTAM- INANT	. CONTAMINANT NAME	UNITSQ/ (DRY CC WEIGHT)	UNITSQA/QC PLANT (DRY CODE MIN. CONC. EIGHT) > DL	NC. MAX. DET.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL. # SAMPLES	GLOBAL.	GLOBAL. % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL.
CONVENTIONALS	HONALS														
NNOTHR	AMMONIUM,TOTAL, PILT, REAC. NITRA PIS,TOTAL, FILT, REAC. NITROGEN-TOT-MEE, UNP.TOT	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2696 5 2941	2696			100.0	22 25 25	23 23 49		269683.26 565.61 294117.65	17658.28 42.68 38494.12	0.00	2.23 1.77	95.0
PNI PPUT RST RSTLOI	(4.OG(H-(CONCN)) PHOSHIGHUS, INPHI, TTOTAL RESIDUE, TOTAL RESIDUE, TOTAL		0 7.30 0 21493.21 0 2210.00 0 1180.00	7.30 21493.21 2210.00 1180.00			100.0	\$6 \$0 \$0	50 80	100.0	21493.21 2210.00 1180.00	76638.67 80434.04 43379.33	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	6.91 3.23 3.19	0.001
METALS															
AGUT ALUT CRUT CRUT CRUT SRUT	SILVIER, UNFILL TOTAL. ALLMINUM, UNFILL TOTAL. CTROMIUM, UNFILL TOTAL. COPPRE, UNFILL TOTAL. STRONTIUM, UNFILL TOTAL. ZINC, UNFILL TOTAL.	HERE SERVE	0 27.15 0 995.48 0 63.35 0 122.17 0 447.96 0 294.12	27.15 995.48 63.35 122.17 447.96 294.12			100.0 100.0 100.0 100.0 100.0	1 8 8 4 8 8 2 8 9 9 9	188888	100.0 100.0 100.0 100.0	27.18 995.48 63.35 122.17 447.96 294.12	37.78 10715.94 333.06 732.24 240.93 988.90	888888	2.33 2.82 3.59 2.16 2.54 2.54	100.0 100.0 100.0 100.0 100.0
PESTICID	PESTICIDES,HERBICIDES,PCBS														
PLIKCHT	PCB, TOTAL.	ug/kg	2 452.50	452.50	-	-	100.0	20	32	30.0	452.50	114.10	0.00	4.58	67.7

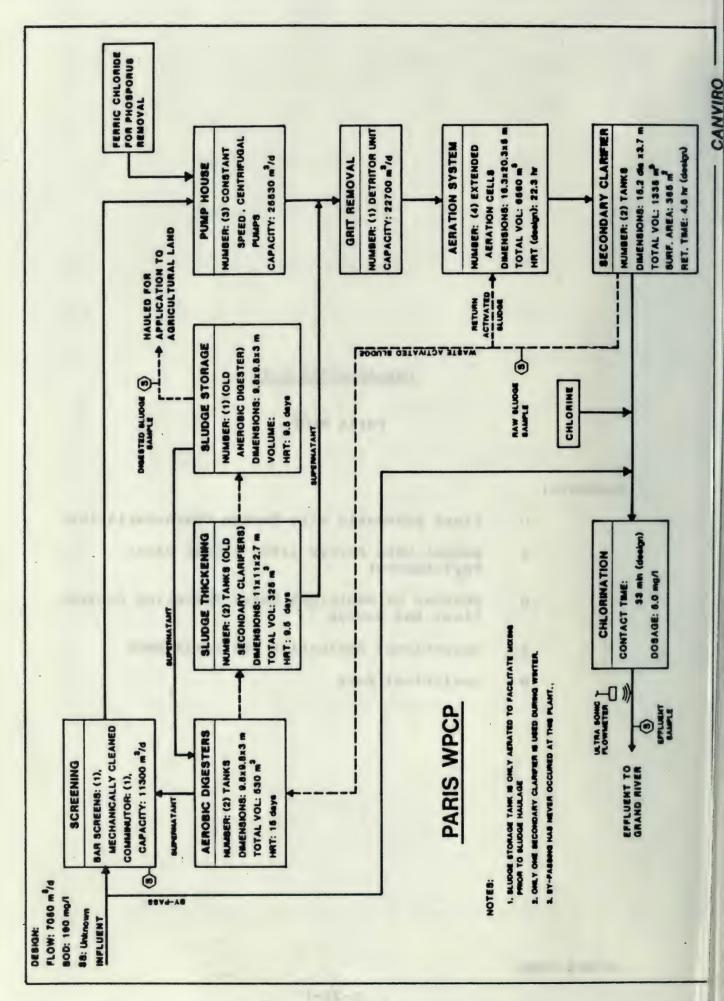
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### Sub-Appendix A-21

#### Paris WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Paris WPCP
- o Analytical Data



PARIS WPCP Extended Aeration Phosphorus Removal - Continuous Capacity - 7.846 18(3)#3/day

PARAMETER	1981	1982	1983	1984	1985	MEAN ANNUAL AVERAGE
Avg. Daily Flow (1888 m3/day)	2.10	2.57	1.92	2.24	2.53	2.27
		1				
BOD5 - Influent (mg/L)	173.55	188.43	369.92	288.58	343.88	282.35
BDD5 - Effluent (mg/L) Annual BDD5 Significantly	18.89	22.64	6.81	8.67	6.18	11.25
Different from Mean Annual Average BOD5?	i I Y	Y	N	N	N	
	! 		1		*	
TSS - Influent (mg/L)	121.47	168.93	243.65	283.88	222.33	192.96
TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean	27.53	20.43	9.19	9.47	6.73	14.35
Annual Average TSS?	ł Y	N	N I	H	Y	
***************************************	1					
Total P - Influent (mg/L)	5.47	9.88	9.88	7.13	8.44	7.53
Total P - Effluent (mg/L) Annual TP Significantly Different from Mean	1.86	8.88	8.98	0.58	0.55	8.95
Annual Average TP?	. Y	1.0.	. N	¥	Y	
TP in Compliance?	N	I.D.	1 Y	) Y	; Y	; v

I.D. - Insufficient Data

#### SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

#### GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE  DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	PARIS WPCP 110001097 EXTENDED AERATION PHOSPHORUS REMOVAL CONTINUOUS 7.046 2.603 4359
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	f : 32
COMMERCIAL SOURCES (%) (Population x 0.0757)	13
RESIDENTIAL SOURCES (%) (Population x 0.175)	****** <b>29</b>
UNACCOUNTED FOR, INCL. INFILTRATIO (100-% Contributed from industrial, commercial and residential sources)	N 26
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	29 11 15

# DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION RECEIVED AND A PROPERTY OF THE	SIC # CO	OF MPANIES
POULTRY MACHINERY MFG PRIMARY TEXTILES MEAT METAL FINISHING	2016-2017 3500-3599 2211-2269 2011-2013 3411-3469	1 3 1 2

#### PARIS WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: May 17,1987
SAMPLING SEASON: Summer (Warm Weather)
DESIGN AV6 FLOW: 7,050 m3/d

1				PRE-SAM	PLING PERI	OD		
8	PARAMETER :	DAY 1	DAY 2	DAY 3 1	DAY 4 :	DAY 5	DAY 6 1	DAY 7
] =:		!	!	!	::::::::::::::::::::::::::::::::::::::	:========= :	!	
1	RAN SENAGE FLON	2,680	2,920	2,900	2,820	2,550	2,550	2,550
	I of Design Flow	3B.012	41.422	41.132	40.02%	36.172	36.177	36.172
	Influent BOD (mg/L)		200 (			370		
	Primary BOD (ag/L) Secondary BOD (mg/L)	2 0	2	3 2 3 1	2 2 9	4 ;	2 2	
	I PRIMARY REMOVAL :	i 1 1	99.3	· · · · · · · · · · · · · · · · · · ·	 	98.9		
	Influent SS (mg/L) : Primary SS (mg/L) :	1 1 1	116	1	1	196	1	
	Secondary SS (mg/L) : I PRIMARY REMOVAL :	2 0 2	6 1	1	2 2 2	4 :		
-	% SECONDARY REMOVAL		95.1			98.0	1	
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL	 	0.1			0.1	1	
	Influent TKN (mg/L) Primary TKN (mg/L)	8 8 8	48.0	8 8 8	2 1 1 2	67.2	1 1 2 2	
	Secondary TKN (mg/L) 2 PRIMARY REMOVAL	1	1.2 :	8 8	B B	0.9 :	8 8	
	Z SECONDARY REMOVAL		97.5 :			98.7 :		
11	Influent Total P (mg/L) Primary Total P (mg/L)	;	8.9 :	8 8	1 1 2	8.0 ;	9 9	
11	Secondary Total P (ag/L) : Z PRIMARY REMOVAL	2	0.32 1	8 9 1 9	9 12 3	0.35	2	
11	% SECONDARY REMOVAL		96.4	1		95.6 1	1	

PARIS MPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: May 17,1987

SAMPLING SEASON: Sugger

Summer (Warm Weather)

DESIGN AVE FLOW: 7,050 a3/d

11				PRE-SAM	PLING PERI	OD		
11	PARAMETER !	DAY 8 1	DAY 9 1	DAY 10	DAY 11		DAY 13	
11	RAW SEWAGE FLOW	4,410	2,320	2,470	2,090	2,230	2,230	2,230
11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	I of Design Flow !	62.55%	32.91%	35.042	29.65%	31.6321	31.6321	31.632
	Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL							; ; ;
	Influent SS (mg/L) : Primary SS (mg/L) : Secondary SS (mg/L) : Z PRIMARY REMOVAL : Z SECONDARY REMOVAL :				1	1	1	
	Influent NH4 (mg/L) : Primary NH4 (mg/L) : Secondary NH4 (mg/L) : Z PRIMARY REMOVAL : Z SECONDARY REMOVAL :	1	 		2 2 3 3 4 4 4		; ;	; ; ;
	Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL			; ; ;			; ; ;	1
	Influent Total P (mg/L) : Primary Total P (mg/L) : Secondary Total P (mg/L) : Z PRIMARY REMOVAL : Z SECONDARY REMOVAL :	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		1	2 2 2 2 2 2 2 2 2		1	; ; ;

#### PARIS WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: May 17,1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 7,050 m3/d

11				BANK	1110 00010			i
1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				SAMP	LING PERIO	D		
11	PARAMETER :	DAY 15 1	DAY 16 :	DAY 17 :	DAY 18 :	DAY 19 :	DAY 20 1	DAY 21
==								
11	1	1	9 8	1	3	1	1 1	3
11	RAW SEWAGE FLOW	2,730 1	2,700 ;	2,550 1	2,930 :	3,290 1		
11	8	1	8	1	1	1		
11	% of Design Flow	38.721	38.30%	36.17%	41.562	46.67%	28.37%	28.371
!!	i	i	i	i 	i !		i !	
11	Influent BOD (mg/L)			248	1	2 2	1	
11	Primary BOD (mg/L)	1	2 2	1	2 1	1	5 5	1
11	Secondary BOD (mg/L)	ŧ.	9	4 1	1	2 3		1
1 1 1 1	Z PRIMARY REMOVAL	9 9	3 8	3 9	3	1	2	1
1 1	% SECONDARY REMOVAL	1	1	98.3 :	1	1	ì	
11-	Influent SS (mg/L)		;	102 ;		1	;	
11	Primary SS (mg/L)		1	102 1	1	1	1	
3 8	Secondary SS (mg/L)			5 :				
11	2 PRIMARY REMOVAL		:	3		1		
8 2 9 8	% SECONDARY REMOVAL	1	1 1	94.9 ;	1	5 3	4	3 8
11-								
2 2	Influent NH4 (mg/L)	1	1	1	1	2 3	1	1
5 5	Primary NH4 (mg/L)	1	1		1	2	3	
11	Secondary NH4 (mg/L)		1	0.1 :	1	1	1	1
11	% PRIMARY REMOVAL	i	i	2	;	1	1	1
-11	% SECONDARY REMOVAL	i	i	i '	i	i	i '	
11	Influent TKN (mg/L)	1	!	52.7	!	1	!	1
11	Primary TKN (mg/L)		1	1		1	:	
11	Secondary TKN (mg/L)	8	1	0.4 1	1	3 8	2 2	
1 1	% PRIMARY REMOVAL	2	1	2	1	2 8	2 3	1
1 2	% SECONDARY REMOVAL	9	2 %	99.2 :	1	3 1	2 2	8
11-								
11	Influent Total P (mg/L)		1	6.3 1	1	2 3	1	8
2 8	Primary Total P (mg/L)		1	1		1	9	
11	Secondary Total P (mg/L)			0.97 :	i		1	
11	7 PRIMARY REMOVAL			04 5	9	1	1	1
3 8	Z SECONDARY REMOVAL	i	i	84.5	i	i	5	i

PLANT NAME: Paris PLANT TYPE: Secondary

CONTAM: CONTAMINANT NAME INANT

PLANT GLOBAL SPREAD SPREAD FACTOR FACTOR GLOBAL GEO. MEAN SAMPLING TYPE: Raw Scwage SAMPLE FORM: Wet Weight GEO. MEAN GLOBAL % FREQ. DET. GLOBAL # DET \* SAMPLES GLOBAL PLANT % FREQ. DET. PLANT # DET. PLANT # SAMPLES UNITS QC PLANT PLANT CODE MIN. CONC. MAX. DET. > MDL CONC.

GLOBAL % PREV.

266         99.6         318.55         140.23           258         99.2         430.91         287.73           271         100.0         28.84         287.73           274         99.6         430.91         287.73           274         99.6         430.91         287.73           273         100.0         0.03         0.05           273         100.0         56.93         25.44           275         100.0         56.93         25.44           275         100.0         56.93         25.44           275         100.0         7.09         6.90           374         96.8         100.0         110.60           318         99.7         420.00         1000.10           318         99.7         420.00         1000.0           318         99.7         420.00         1000.0           318         99.7         100.0         930.0           234         10.00         211.00           41         12.8         10.00         6.30           41         12.8         10.00         6.30           41         42.9         37.70         14.52
99.6 318.55 14 99.6 338.55 14 100.0 28.84 2 21.4 00.2 28.84 2 10.2 0.18 0.18 100.0 56.93 2 100.0 7.09 2 100.0 8.74 12 99.7 420.00 100 99.7 420.00 37 99.7 420.00 37 99.7 420.00 37 77.5 10.00 1 8.0 0.16 31.8 0.016 8.1.8 0.016
100.0   267   266   99.6   318.55   144     100.0   271   271   100.0   228.4   22     100.0   271   271   100.0   228.4   22     100.0   273   274   99.6   38.34   11     100.0   273   273   273   274   29.6     100.0   273   273   273   274   20.0     100.0   273   275   275   275   275     100.0   248   248   248   248     100.0   248   248   248   248     100.0   287   266   99.6   126.37   12     100.0   287   266   99.6   126.37   12     100.0   287   266   99.6   126.37   12     100.0   287   266   99.6   126.37   12     100.0   272   237   25.6   25.6   100.0   27     100.0   275   118   442.9   37.70   1     100.0   276   276   143   218   0.016     20.0   276   276   143   218   0.016     20.0   276   276   274   275   0.006     20.0   276   274   275   0.006     20.0   276   274   275   0.006     20.0   276   274   275   0.006     20.0   276   276   274   275   0.006     20.0   276   276   276   276   0.006     20.0   276   276   276   276   0.006     20.0   276   276   276   276   0.006     20.0   276   276   276   276   0.006     20.0   276   276   276   276   0.006     20.0   276   276   276   276   276   276   276     20.0   276   276   276   276   276   276   276     20.0   276   276   276   276   276   276   276     20.0   276   276   276   276   276   276     20.0   276   276   276   276   276   276     20.0   276   276   276   276   276   276     20.0   276   276   276   276   276     20.0   276   276   276   276   276     20.0   276   276   276   276     20.0   276   276   276   276     20.0   276   276   276     20.0   276   276   276     20.0   276   276   276     20.0   276   276     20.0   276   276   276     20.0   276   276     20.0   276   276     20.0   276   276     20.0   276     20.0   276     20.0   276     20.0   276     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0     20.0
266         266         99.6         318.55         14           260         258         99.2         318.55         14           271         271         100.0         28.84         2           271         271         100.0         28.84         2           271         28         21.4         0.02         2           273         273         100.0         36.93         2           274         275         100.0         36.93         2           275         275         100.0         36.93         2           276         276         99.6         126.37         12           278         276         99.6         126.37         12           281         274         99.6         126.37         12           282         274         99.6         126.37         12           322         274         99.7         420.00         10           322         237         77.6         20.00         3           322         237         77.6         20.00         3           275         11         42.9         37.70         1           276
266 99.6 318.55 14  228 99.2 490.91 28  271 100.0 28.84 2  28 21.4 0.02  28 21.4 0.03  273 100.0 26.93 2  273 100.0 26.93 2  274 99.6 100.0 100  28 21.4 0.03  28 21.4 0.03  28 21.4 0.03  28 100.0 26.93 2  28 100.0 20  28 20.0 420.0 100  31 99.7 420.0 37  31 99.7 420.0 37  31 99.7 420.0 37  31 23.5 100.0 2  31 23.6 10.0 37  31 42.9 37.70 1  31 43 31.8 0.016  31 60.0 100  32 21.4 77.3 0.16  31 8 91.8 0.016
99.6 318.55 144 100.0 28.84 27 99.6 38.34 11 10.2 0.18 10.2 0.18 10.0 0 70.9 100.0 8.74 100.0 8.74 100.0 8.74 100.0 8.74 100.0 100 100.0 100 100.0 100 100.0 100 100.0 100 100.0 100 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0 110 100.0
318.55 430.91 28.84 28.84 28.34 10.02 10.09 420.00 60.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00 10.00
140.23 287.75 22.39 15.37 0.01 0.05 5.18 126.88 126.88 126.88 126.88 126.88 126.88 126.88 127.70 211.00 9.30 51.10 6.50 12.40 12.40 6.50 12.40

GLOBAL GLOBAL SPREAD % PREV. FACTOR FLANT SPREAD FACTOR GLOBAL GEO. MEAN SAMPLING TYPE: Final Effluent SAMPLE FORM: Wet Weight GEO. MEAN GLOBAL % FREQ. DET. PLANT \* FREQ. DET. PLANT \* DET. PLANT PLANT FLANT
MIN. CONC. MAX. DET. #
5 DL CONC. SAMPLES UNITS QC STD. FOR STD. REF. CODE SURFACE PLANT NAME: Paris PLANT TYPE: Secondary WATER CONTAMINANT NAME CONTAM.

CONVENTIONALS RODS RODS	ONALS ROD, S DAY, TOTAL DEMAND	med	0			17.00	34.00	4.	4.	100.0	213	211	8.8	23.86	21.22	148	207	0.001	
COD DOC NNHTTPR NNO2PR	CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM,TOTAL FILT REAC. NITRATES, TOTAL FILT. REAC.	7777	00000			16.00 4.50 0.05 0.10 23.60	28.40 28.40	****	e 4 20 4 20 20	0.0000000000000000000000000000000000000	220 220 224 224 222	220 204 194 186	100.0 91.5 88.2 83.0	5.11 0.06 0.23 26.21 1.15	8.09 3.90 0.22 2.33	1.10 1.36 1.07 1.17	1.60 6.98 5.95 7.75 2.71	100.0 100.0 96.4 96.4	
NNTKUR PH PPUT RSP	NITROGEN-TOT-KIEL, UNF.TOT (-LOCGH-(CONTO)) PHOSHIORUS, UNFILT.TOTAL RESIDUE, PARTICULATB	3 3 3	0000			7.28 0.68 3.50	7.84 1.22 5.00	N N 4	1 N N M	100.0 75.0	224 211 220	224 206 219	97.6 97.6 99.6	7.52 0.95 2.94	7.10 0.68 10.12	1.24	1.05	0.001	
METALS												1				000	756	9	
CUUT	COPPER, UNFILT: TOTAL MERCURY, UNFILT: TOTAL STRONTIUM, UNFILT: TOTAL	333	000	5.00 9.20 3750.00	ONT-MOE ONT-MOE ONT-MOE	10.00 300.00	10.00 0.02 350.00		- vs vs vs	100.0 100.0 100.0	47 253 267	30 220 267 262	94.4 100.0 98.1	330.00 10.00 10.00	13.10 0.03 340.90 53.30	1.06 1.06 1.92	262	100.0	
MOUT	ZINC,UNPILT.TOTAL MOLYBDENUM,UNPILT.TOTAL COBALT,UNPILT.TOTAL	333	000	8.00	NYS-STD	80.00	0000	)	ı m m -	33.3	267	25 25 21	28.1	00.01	6.60 6.40 6.90	1.79	<u> </u>	67.9 82.1 32.1	
CRUT	SILVER, UNFILT, TOTAL, CHROMIUM, UNFILT; TOTAL	33	00	100.00	ONT-MOB ONT-MOB	10.00	10.00	o <b>v</b> o		16.7	267	137	513	00'01	00'6	133	200	£ 89.3	
TICIDI	PESTICIDES, HERBICIDES, PCBS												j			24	6	000.	
P32AD P1BHCG P32AST P3SILV	24-DICHLOROPHENOXYAGETIC ACID GAMMA-BICCHEXCHLORCYCLIEXANE) 24,5-TRICLORPHENOXYAGETIC ACID SILVEX	222	m m m m	0.06	ONT-MOB ONT-MOB	0.14 0.07 0.10	13.00 0.02 1.10 0.93	N 40 40 40	का व्य व्य (व	80.0 80.0 40.0	227	<u> </u>	78.0 69.2 11.0 10.1	0.015	0.03	5.47 1.86 4.12 4.86	2.27	96.4 42.9 50.0	
LATIL	VOLATILES ORGANIC COMPOUNDS XICHLO CHLOROPORM	N.	-	0.20	CTS-STN	4.20	4.20	w	-	0.02	224	37	16.5	133	137	1.90	218	64.3	

PLANT NAME: Paris PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight

BAL GLOBAL GLOBAL PLANT GLOBAL PLANT GLOBAL GLOBAL  # % FREQ. GEO. GEO. SPREAD % PREV.  # DET. MEAN MEAN FACTOR FACTOR		45         100.0         1136968.09         89222145         0.00         3.19         100.0           47         97.9         2194.13         5911.32         0.00         4.59         100.0           43         89.6         2194.13         5911.32         0.00         4.59         100.0           44         100.0         66489.36         36897.85         0.00         2.29         100.0           41         82.0         385.11         823.4         0.00         2.29         100.0           51         100.0         3775.60         2047.70         0.00         1.10         100.0           51         100.0         4550.00         22783.51         0.00         1.81         100.0           51         100.0         4550.00         22783.51         0.00         1.81         100.0           51         100.0         4550.00         20803.65         0.00         1.77         100.0           50         98.0         665         613         0.00         2.51         100.0           50         98.0         279.26         31.43         0.00         2.01         97.1           50         100.0         1.67		1 38 74.5 126.30 93.20 0.00 6.30
PLANT PLANT GLOBAL # % FREQ. # DET. DET. SAMPLES		1 100.0 48 1100.0 48 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 1100.0 11		1 100.0 51
PLANT # SAMPLES				
UNITSQA/QC PLANT PLANT (DRY CODE MIN. CONG. MAX. DET. WEIGHT) > DL CONG.		mg/kg 0 1136968.09 mg/kg 0 2194.15 2194.15 mg/kg 0 66499.36 66489.36 mg/kg 0 3324 31.24 mg/kg 0 3520.00 mg/kg 0 7520.00 mg/kg 0 7520.20		05 961 05 961
CONTAMINANT NAME	DNALS	CHEMICAL OXYGEN DEMAND AMMONUM,TOTAL PILT REAC. NITROGEN TOTAL PILT REAC. NITROGEN TOTAL PILT REAC. ALOCHHCONCIN) PHENOLICS (AAAP) RESIDUE, TOTAL CHROMUM,UNPILTTOTAL COPPER,UNPILTTOTAL NICKEL,UNPILTTOTAL LEAD,UNPILTTOTAL LEAD,UNPILTTOTAL TROTAL TOTAL	PESTICIDES, HERBICIDES, PCBS	
CONTAM.	CONVENTIONALS	COD NNITTR NNOTTR NNATKUR NNITTR NNATKUR NNITTR NATALS ALUT CRUT CRUT CRUT RESTLOI NEGUT N		

11 11/19/19/19

	PLANT NAME : PLANT TYPE :	YPE :		Paris Secondary						SAMPL	SAMPLING TYPE SAMPLE FORM	E : Treated Sh : Dry Weight	: Treated Sludge : Dry Weight				
CONTAM. INANT	CONTAMINANT NAME.	UNITSQ (DRY C) WEIGHT)	UNITSQA/QC (DRY CODEN EIGHF)	PLANT IIN. CONC. > DL	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL. # SAMPLES	GLOBAL.	GLOBAL. S. PREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO, MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL.	
CONVENTIONALS	ONALS																
COD	CHEMICAL OXYGEN DEMAND AMMONIUM TOTAL PLITREAC	me/kg	00	3212.50	3212.50			100.0	2 2	36	10000	3212.50	508097.94	0.00	4.65	100.0	
NNOTER	NEIRATES, TOTAL, FILT. REAC.	2		25.00	25.00			100.0	9 9 9	2 9	88.5	25.00	42.68	000	2.29	95.0	
FIL	(LOC(H-(CONCN))	1		7.34	7.34			100.0	4	47	100.0	7.34	71.7	0.00	60	100.0	
PPLT	PHENOLICS (4AAP) PHOSPHORUS,UNFILT.TOTAL,	m Cke	00	33562.50	33562.50			100.0	4 4 5	43	100.0	33562.50	76638.67	0.00	5.14	100.0	
RST RST1.01	RESIDUE, TOTAL. RESIDUE, TOT LOSS ON IGNI.	1		10200.00	10200.00			0.001	2 2	S S	100.0	10200 00	43379.33	0.00	3.23	100.0	
METALS																	
AGUT	SILVIER, UNFILT TOTAL	mg/kg		62.50	62.50			100.0	4 9	13	0.001	62.50	37.78	0.00	2.33	100.0	
ASIT	ALUMINUM, UNFILL TOTAL.	mg/kg		3.75	3.75			100.0	2000	49	0.001	3.75	5.40	0.00	2.06	97.1	
COUT	COBALT, UNFILT TOTAL.	me/kg		7.50	7.50	-		100.0	39	32	82.1	7.50	9.14	0.00	2.75	85.7	
CRUT	COMPLETE TOTAL	me/ke		435.00	435.00			100.0	45	45	0.001	435.00	732.24	0.00	2.16	100.0	
HOUT	MERCERY, UNFILT TOTAL.	mg/kg	0	1.88	1.88			100.0	05	49	98.0	1.88	3.24	0.00	2.04	97.1	
MOUT	MOLYBDENOM, UNFILL TOTAL.	me/ke		10 00	87.50			100.0	200	64	0.86	87.50	196 62	0.00	2.46	97.1	
SEUF	SELENIUM, UNPILITOTAL.	mg/kg		3.13	3.13	_		100.0	90	48	0.96	3.13	2.67	00.00	2.98	97.1	
SRUT	STRONTION, DIFFER TOTAL, ZINC, UNFILT TOTAL,	m m m m m m m m m m m m m m m m m m m		556.25	556.25			0.001	20	200	100.0	556.25	948.90	0.00	2.57	100.0	
BASENEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	POUNDS															
PMMCRE	M CRESOL.	ug/kg	-	225000.00 2	225000.00	-	-	100.0	90	15	30.0	225000.00	5281.80	0.00	8.20	35.3	
DIOXINS A	DIOXINS AND FURANS																
					8				4	,	. 0	010		000	1 67	. 77	
P98CDD	CXTACH II. ORODIBENZODIOXIN	ng/kg	-	2.70	2.70	-	-	100.0	2,	8	55.1	7.70	7.10	0.0	3	Š	
PESTICIDA	PESTICIDES,HERBICIDES,PCBS																
P324D	2,4-DICHI.OROPHENOXYACHTIC ACID	u.g.k.s	3	875.00	875.00	-	-	0.001	20	25	90.0	875.00	75.00	0.00	5.81	7.30	

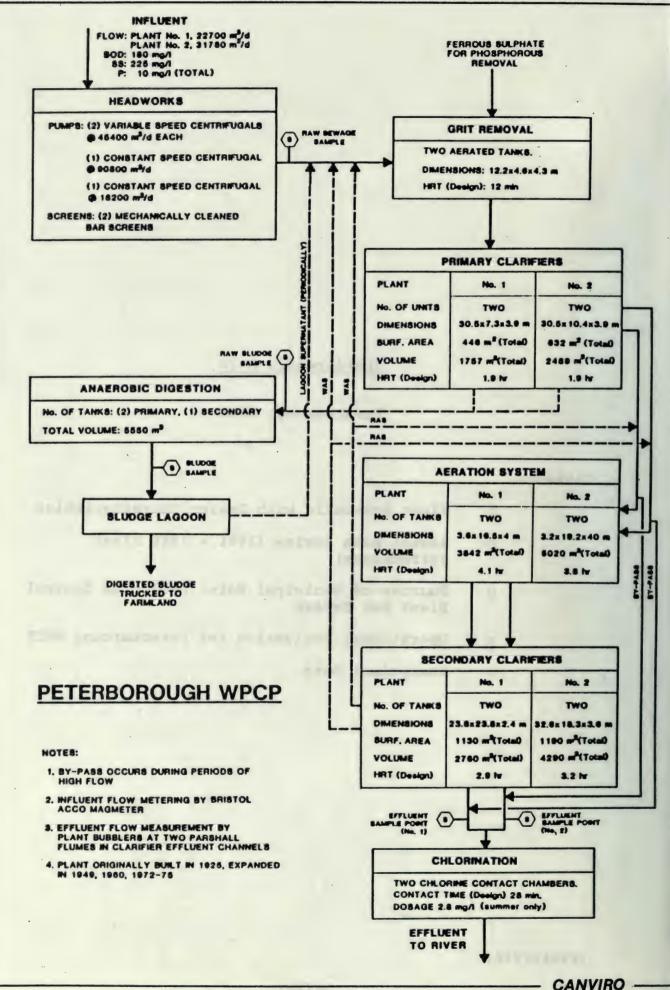
111/13/15 DESCRIPTION 

#### Sub-Appendix A-22

#### Peterborough WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Peterborough WPCP
- o Analytical Data



L. Ontario

PETERSOROUGH MPCF
Convertional Activated Sludge
Phosphorus Removal - Continuous
Capacity - 68.198 18(3) m3/day

PARAMETER	1981	1982	1983	1984	1985	HEAN ANNUAL AVERAGE
Avg. Daily Flow (1000 #3/day)	51.87	54.42	53.14	54.68	56.91	54.14
8055 - Influent (*g/L)	65.30	89.00	98.88	68.42	77.46	78.86
BDD5 - Effluent (mg/L) : Amoual BDD5 Significantly : Different from Mean :	8.20	11.70	9.28	12.21	11.89	18.62
Annual Average BOD5?	I.D.	I.D.	I.D.	I.D.	1.0.	1
TSS - Influent (ag/L)	79.29	84.88	88.88	77.63	71.55	80.37
TSS - Effluent (mg/L) : Annual TSS Significantly : Different from Mean :	8.68	10.00	7.28	6.84	7.06	7.75
Annual Average TSS?	I.D.	I.D.	1.0.	I.D.	I.D.	1
Total P - Influent (ag/L)	3.40	36.18	3.42	3.06	3.26	18.28
Total P - Effluent (mg/L) : Annual TP Significantly : Different from Mean :	8.74	<b>8.94</b>	0.77	<b>0.</b> 81	8.88	8.81
Annual Average TP? TP in Compliance?	I.D.	I.D.	1.D.	I.D.	I.D.	Υ

I.D. - Insufficient Data

#### SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

PETERBOROUGH WPCP

4

#### GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP

WORKS NUMBER TREATMENT TYPE		ACTIVATED SLUDGE MOVAL CONTINUOUS, EFFLUENT
DESIGN CAPACITY (1000 m3/d)	68.190	MOVAL CONTINUOUS, EFF LUENT
1986 AVERAGE DAY FLOW (1000 m3/d)	53.188	
POPULATION SERVED	61063	I was a second
Limited Later Color Later		
OF MOMAL FLOW AMEDITATION TO		THE LOCAL PROPERTY.
% OF TOTAL FLOW ATTRIBUTED TO:		reneficent and making it
INDUSTRIAL SOURCES (%)	22	unra -
COMMERCIAL SOURCES (%)		
(Population x 0.0757)	9	
RESIDENTIAL SOURCES (%)		and the same of th
(Population x 0.175)	20	
(copulation in orange)		The same of the sa
UNACCOUNTED FOR, INCL. INFILTRATIO	N 49	2.1
(100-% Contributed from	•	
industrial, commercial and		and the second second
residential sources)		
		The state of the s
PROFILE OF INDUSTRIES IN CATCHMENT		
TOTAL NO OF INDUSTRIES	144	
INDUSTRIES WITH WATER	51	
NO OF SIC CATEGORIES	28	
DESCRIPTION OF THE TOP 5 INDUSTRIE (BASED ON WATER USE DATA)	S DISCHARGED TO	O THE WPCP
DESCRIPTION	SIC # OF	
DESCRIPTION		ANIES
ELECTRICAL, ELECTRONIC CMPTS	3612-3690	6
PLASTICS MOLDING	3070-3079	7
MACHINERY MFG	3500-3599	15

MISC. CONVERTED PAPER PRODUCTS

GRAIN MILLS

2640-2655

2041-2048

#### PETERBOROUSH WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: March 13, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AV6 FLOW: Plant#1-22,700 m3/d; Plant#2-31,780 m3/d

				PRE-SAM	PLING PERI	OD		
	PARAMETER	DAY 1 1	DAY 2 :		DAY 4 1			
			1	1	1	1		
1	RAW SEWAGE FLOW	43,325	45,916	45,960 :	46,370	46,370 1	46,961	
	% of Design Flow	79.521	84.282	84.36%	85.117	85.117	86.20%	105.22%
	Influent BOD (mg/L)		120.0					
	Primary BOD (mg/L)		96.0 :		1			
	Secondary BOD (mg/L)		14.0 1				:	
	Z PRIMARY REMOVAL		20.01	1	1	1	3 3	
	% SECONDARY REMOVAL	+	88.31;	2 2	8 8	1 1		
	Influent SS (mg/L)	138.0 1	121.0 1	156.0 1	116.0 :	134.0	8	
8		68.0	100.0	161.0 ;	75.0 1	95.0 :	8 2	
2	Secondary SS (mg/L)	6.0	2.0 :	10.0 ;	5.0 1	4.0 1	2 2	
3	I PRIMARY REMOVAL	50.7%		-3.21			1	
!	I SECONDARY REMOVAL	95.7%	98.31!	93.621	95.71	97.02:	1	
i	Influent NH4 (mg/L)	;; -	·; ·	,			1	
9	Primary NH4 (mg/L)	! !	1	a 8	1	1	1	
2	Secondary NH4 (mg/L)	!!!		1				
•	% PRIMARY REMOVAL	: :						
1	% SECONDARY REMOVAL	1			1	1		
ļ								
9	Influent TKN (ag/L)	1	1	1	8	8 0	1	
2	Primary TKN (mg/L)	1 1	2 2	1	1	8 2	8 1	
1	Secondary TKN (mg/L)	8 8	8 8	2 8	\$	8	:	
8	I PRIMARY REMOVAL	1	2 2	3 3	1	8	2 2	
8	I SECONDARY REMOVAL	:	2 8	1	1	8	8 8	
	7./3 . 7.4.3.8./		4.70		1 70	4.50		
1	Influent Total P (ag/L)	5.00	4.70 (	4.20 :	4.70 :	4.50 :		
1 1 1	Primary Total P (mg/L)	4.50	4.20	3.80 ;	3.80 1	4.00 1	8	
9 9	Secondary Total P (mg/L)		1.10 :	0.90 :	0.80 :	0.90	i	
2 2	Z PRIMARY REMOVAL Z SECONDARY REMOVAL	10.0%	10.6%;	9.5%	19.1%	11.12;	i	

# OPERATIONAL EVALUATION FOR: PETERBOROUGH WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING:

March 13, 1987

SAMPLING SEASON:

Winter (Cold Weather)

DESIGN AVE FLOW:

Plant#1-22,700 #3/d; Plant#2-31,780 #3/d

11				PRE-SA	MPLING PER	IOD		:
11	PARAMETER :	DAY 8 1	DAY 9 :	DAY 10 :	DAY 11 ;			DAY 14
11	RAN SEWAGE FLON	56,190 1	53,235 1	50,598 :	51,871	1	1	77,920
11	% of Design Flow	103.142	97.7121	92.871	95.2121	100.0521	126.421	143.0221
	Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) I PRIMARY REMOVAL SECONDARY REMOVAL		116.0   79.0   13.0   31.92   88.82			       		
	Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL	104.0   52.0   5.0   50.02   95.22	107.0   82.0   5.0   23.42  95.32	7.0 :	124.0   67.0   4.0   46.01; 96.82	156.0 : 56.0 : 4.0 : 64.12: 97.42:	 	               
	Influent NH4 (mg/L) : Primary NH4 (mg/L) : Secondary NH4 (mg/L) : I PRIMARY REMOVAL : I SECONDARY REMOVAL :			1				1
	Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) 2 PRIMARY REMOVAL 3 SECONDARY REMOVAL	1						
	Influent Total P (mg/L) : Primary Total P (mg/L) : Secondary Total P (mg/L) : Z PRIMARY REMOVAL : Z SECONDARY REMOVAL :	5.20   4.70   0.90   9.62   82.72	3.80   3.50   1.00   7.92   73.72	4.00 : 3.80 : 0.90 : 5.01: 77.51:	4.30 : 4.00 : 0.80 : 7.02: 81.42:	4.80 : 3.20 : 0.70 : 33.31: 85.42:		

# OPERATIONAL EVALUATION FOR: PETERBOROUGH WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING:

March 13, 1987

SAMPLING SEASON: Winter (Cold Meather)
DESIGN AVG FLOW: Plant#1-22,700 m3/d; Plant#2-31,780 m3/d

				*********	**********		
8 3 8 3 8 1				SAMP	LING PERIO	ID	
11	PARAMETER	DAY 15	DAY 16 :	DAY 17 :			DAY 21
11		!		1	1	1	 
11	RAN SEWAGE FLOW	74,192	67,009 1	63,327 :	62,645	58,599 ;	8
1 1		1	1	1	1	;	2
2 2 2 2 2 3	% of Design Flow	136.18%	123.001	116.24%	114.99%	107.56%	) 1 1
11-							 
11	Influent BOD (mg/L)		i i	i	i	i	1
11	Primary BOD (mg/L) Secondary BOD (mg/L)	1	1 8	3	1	1	8
11	Z PRIMARY REMOVAL	8		;			1
11	% SECONDARY REMOVAL	8	: :			1	1
11-							 
1 8	Influent SS (eg/L)	8	: :	1	3	1	1
1 1	Primary SS (mg/L)	1	; ;	3 1	1		8
11	Secondary SS (mg/L)	8		1	1	1	1
2 2	1 PRIMARY REMOVAL	3	;	3	1	3	1
11	% SECONDARY REMOVAL	8 8		1	1		1
11-	T-/1 MIA ///						
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Influent NH4 (mg/L) Primary NH4 (mg/L)	i	i i	i		i	3 1 2 2
11	Secondary NH4 (mg/L)	9	i i	i	i	1	8
1 1	2 PRIMARY REMOVAL	1	1 1 ! !	1	1		!
11	Z SECONDARY REMOVAL	2	: :			3	1
11-							
3 9	Influent TKN (mg/L)	1	: :	1		1	1
11	Primary TKN (mg/L)	1	; ;	3	3	:	1
11	Secondary TKN (mg/L)	1	2 1	1 1	1		8
7 8	7 PRIMARY REMOVAL	9	3 8	8 2	1	1	2
11	% SECONDARY REMOVAL	1	1 1	1	1	1	1
11-							 
- 11	Influent Total P (mg/L)						1
11	Primary Total P (mg/L)	3.50					1
11	Secondary Total P (mg/L)						8 8 8
11	% PRIMARY REMOVAL % SECONDARY REMOVAL	12.5%					1
	& SELUNDART KENUVAL	1 /0.04	1 /1.441	/3.0%;	03.01	34.341	 1

#### PETERBOROUGH WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: April 24, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: Plant#1-22,700 m3/d; Plant#2-31,780 m3/d

222								
::				PRE-SAM	PLING PER	TOD		8 1
11	PARAMETER	DAY 1 1	DAY 2 1	DAY 3 1	DAY 4 1	DAY 5 1	DAY 6 !	DAY 7
								:======;
11			1			1	1	11
11	RAW SEWAGE FLOW	199,289	91,649 1	88,331	85,057	79,738 :	74,920 ;	72,783 1
11	8 -/ D F1	1 7/5 0041	((0.078)	1/0 1781	(E/ 179)	1 4 4 7 7 7 7 7 1	177 5001	177 (04)
11	% of Design Flow	365.80%	168.2321	162.13%	156.137	146.362	13/.3221	133.6021
11		!	·			) '-	i 	11
11	Influent BOD (mg/L)		57.0 1	!				!!
11	Primary BOD (mg/L)		54.0 1					11
11	Secondary BOD (mg/L)		16.0 :					
11	Z PRIMARY REMOVAL		5.31				:	
11	Z SECONDARY REMOVAL		71.9%	1				11
11-								
11	Influent SS (mg/L)	74.0 1	71.0 1	78.0 :	1	64.0 1	1	11
11	Primary SS (mg/L)	68.0 1	77.0 :	70.0 :	1	61.0 ;	;	1:
11	Secondary SS (mg/L)	27.0 1	10.0 :	15.0 :	1	5.0 1	1	1 1
11	Z PRIMARY REMOVAL	8.121	-8.521	10.32:	;	4.7%	1	11
11	I SECONDARY REMOVAL	63.51	85.91	80.81	1	92.21	- 1	11
-    -								
11	Influent NH4 (mg/L)	1	1	1	1	1	1	11
11	Primary NH4 (mg/L)	: :	6.0 !	1	;	1	1.	
11	Secondary NH4 (mg/L)	1	7.0 1	;	1	1	1	- 11
11	7 PRIMARY REMOVAL	1	1	;	1	- 1		- 1
1 1	% SECONDARY REMOVAL			1			1	11
11-	Tallwark TVN /aa/l \	;; -						;;
11	Influent TKN (mg/L)	i i	į	i	i		1	11
11	Primary TKN (mg/L) Secondary TKN (mg/L)	i i	i	i	9	1	1	11
11	Z PRIMARY REMOVAL	i i	1	,	* 1	1	1	11
!!	Z SECONDARY REMOVAL		1	1		1	1	11
11-	* DECOMPANT METIDANE	! !}.		·	!.	·!		!!
11	Influent Total P (mg/L)		2.50			-		1 1
11	Primary Total P (mg/L)		2.60					1
11	Secondary Total P (mg/L)		0.90 1		1			11
11	% PRIMARY REMOVAL	1	-4.021		1	1		11
11	% SECONDARY REMOVAL	1	64.02	1	1	1		11
===			07. 741	1	1	1	1	1

# PETERBORDUGH WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: April 24, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AV6 FLOW: Plant#1-22,700 m3/d; Plant#2-31,780 m3/d

***************************************			********			*********	
8 D 0 b							2 2
9 D			PRE-SA	MPLING PER	100		1 2 2
* * * * * * * * * * * * * * * * * * * *	*******			*******			
11 PARAMETER	DAY 8		DAY 10 :				
<b>;</b> ;===================================					**********	========	
2 9	1	i	1	1	i	1 1	11
:: RAW SEWAGE FLOW	1 74,374 1			64,236	60,645	58,690 1	56,099 !!
8 8	1 1		1	2 2	2 2	1	1 9
11 I of Design Flow	1 136.521	130.421	125.92%	117.9121	111.3221	107.73%	102.97%:
1 2 1 1	1	1	1	1		1	2 2 2
ii Influent BOD (mg/L)			86.0	:			
11 Primary BOD (mg/L)	1	2	51.0 1			!	11
11 Secondary BOD (mg/L)			14.0 ;				11
II I PRIMARY REMOVAL			40.72;				11
11 % SECONDARY REMOVAL	1 1		83.71:			!	11
11							
!! Influent SS (mg/L)	200.0 1	84.0 ;	94.0 :	96.0 ;			11
	64.0 1	57.0 1					- 11
!! Secondary SS (mg/L)	9.0 :	7.0 1	7.0 :	7.0 :		3	1 2
11 % PRIMARY REMOVAL	68.07	32.171			!		11
11 % SECONDARY REMOVAL	95.51	91.7%		92.7%	1	. 1	11
11	-{						!!
II Influent NH4 (mg/L)	1 1		2				11
!! Primary NH4 (mg/L)	1 1		13.0 :				11
11 Secondary NH4 (mg/L)	1 1	1	12.0 ;		:		11
11 Z PRIMARY REMOVAL	1		:				11
11 % SECONDARY REMOVAL	1	:					1 1
11	-{						!!
!! Influent TKN (ag/L)	1 1	1	1		:		11
!! Primary TKN (mg/L)	1 1	1	1	1			11
11 Secondary TKN (mg/L)	1 1	1	1		:		11
!! I PRIMARY REMOVAL	1	1	1	1			11
:: % SECONDARY REMOVAL	1	3	1	1			11
							!!
:: Influent Total P (mg/L)	1 1		3.50 :		1		2 2
!! Primary Total P (mg/L)	3 3		3,30 :	1	!		8 8
!! Secondary Total P (mg/L)	1	3	0.90 :	1			11
11 Z PRIMARY REMOVAL	1 1	!	5.71				!!
3 SECONDARY REMOVAL	:	:	74.321		!	2	2.7

# PETERBOROUSH WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: April 24, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: Plant#1-22,700 m3/d; Plant#2-31,780 m3/d

11				SAMP	LING PERIO	D	
	PARAMETER :			DAY 17 :			DAY 21
	,	2	1	60,372	;	1	1 1 2 1
1	% of Design Flow	114.82%	114.49%	110.81%;	109.65%	106.39%	1
	Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL			98.0 : 64.0 : 17.0 : 34.72: 82.72:			
	Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL		126.0 ; 55.0 ; 10.0 ; 56.32; 92.12;	79.0 : 7.0 : 52.4%:	106.0 : 11.0 : -1.9%:	63.0 ! 10.0 ! 53.7%	
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL	· ;	3	11.0	1 2 3 1	1	
	Influent TKN (mg/L) ; Primary TKN (mg/L) ; Secondary TKN (mg/L) ; 2 PRIMARY REMOVAL ; 2 SECONDARY REMOVAL ;	1	1		; ;		
	Influent Total P (mg/L) : Primary Total P (mg/L) : Secondary Total P (mg/L) : I PRIMARY REMOVAL : I SECONDARY REMOVAL :	1 2 3 3 4 4	3 3 3 3 3 3 3 3 5	6.00 : 4.00 : 1.60 : 33.32: 73.32:	1	1	1

PLANT NAME: Peterborough PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

CO	CONTAMINANT NAME	UNITS QC COD	CODE	CODE MIN. CONC.	PLANT MAX. DEF. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL	GLOBAL	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLORAL SPREAD FACTOR	GLOBAL & PREV.
CONVENTIONALS																
HEMICAL O	BOD, 5 DAY -TOTAL, DEMAND CHEMICAL, OXYGEN DEMAND DISSOLVED ORGANIC CARBON BAMONIUM TOTAL, FIT TREAC.	1111	00000	68.80 82.00 1.50 8.20	135.00 214.00 19.50 11.10	r 9 9 9 9 9	- 2 2 2 2	100.0	260 271 273 273	256 271 271 273	99.6 100.0 99.6 100.0	90.32 135.24 7.89 9.82 16.30	140.23 287.75 22.39 15.37 25.44	136 136 110 110	1.93	100.0 100.0 100.0 100.0
HIGGHIGONCN) PHOSPHORUS, UNPILT, TC	(4.OCCH-CONCN) PHOSPHORUS, UNFILT. TOTAL RESIDUR, PARTICULATE	44	0000	7.00	7.39 3.90 153.00	212	010	100.0	27.5	275 248 266	0.001	7.22	6.96 5.18 126.88	1.02	105	100.0
A JUMINUM, UNPHLITTO GEROMIUM, UNPHLITTO MERCURY, UNPHLITTO STRONTHUM, UNPHLITTO CADMIUM, UNPHLITTOTAL CADMIUM, UNPHLITTOTAL MOLY RIDENUM, UNPHLITTOTAL SILVER, UNPHLITTOTAL NICKER, UNPHLITTOTAL	AL JAMINUM, UNPILL, TYOTAL CIRCOMIUM, UNPILL, TYOTAL MERCURY, UNPILL, TYOTAL STROWTHUM, UNPILL, TYOTAL CADMIUM, UNPILL, TYOTAL CADMIUM, UNPILL, TYOTAL MOLY PIDENUM, UNPILL, TYOTAL SIL, VER, UNPILL, TYOTAL NICKEH, UNPILL, TYOTAL	<u> </u>	0000000000	270.00 30.00 0.07 110.00 110.00 80.00 30.00 170.00	1400.00 90.00 0.33 220.00 20.00 80.00 30.00 30.00 170.00	=========	=======================================	100.0 100.0 100.0 100.0 27.3 27.3 27.3 8.1	322 322 322 322 322 322 322 322 322 322	306 237 274 318 318 76 82 41 103	95 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	610.00 60.00 0.14 200.00 150.00 10.00 10.00 10.00 10.00 30.00 90.00	1000.10 51.10 0.23 370.70 211.00 6.50 9.30 12.40 10.40 38.80 59.50	1.48 1.33 1.07 1.19 1.05 1.06 1.06	2.65 3.44 2.114 2.14 2.09 2.09 2.31 1.72 2.55 2.70 1.86	973 89.2 100.0 100.0 100.0 70.3 81.8 85.8 56.8 56.8
AL AND AC	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SUNDS														
BUTYLBENZ PHENOL	BUTTLBENZYLPHTHALATE PHENOL	33	- 2	15.10	15.10	0 0		10.0	275	81	12.4	5.58 8.36	5.85	142	246	37.8
DIOXINS AND FURANS																
ETRACHLO	TETRACH ORODIBENZOPURAN	n.	6	4.80	4.80	8	-	90.0	Z,		1.9	1.10	0.41	8.08	3.08	11
PESTICIDES, HERBICIDES, PCBS	cs,PCBS															
24-DIGHLOROPIE METHOXYGHLOR GAMMA-BHC(HEU BETA-BHC (I ŒXC ENDSOSIJ FAN SUI HEPTACHLOR 1,24-TRICHLOROF	24-DICHLOROPHENOXYACHTIC ACID METHOXYCHLOR METHOXYCHLOR BETAMAM-BHICHURCH LORCYCLJERXANE) BETA BHC (#EXCHLORCYCLJERXANE) ENDOSUL FAN SULPHATE REPTACHLOR 1,24-TRICHLOROBENZENE	34444	m = N = m m m	0.05 0.10 0.02 0.02 0.03 0.03	0.51 2.00 0.05 0.07 0.09 0.03	222222	0 8 4 5 6	100.0 80.0 40.0 30.0 10.0 10.0	276 276 276 276 276 276	214 477 143 32 32 35	77.5 17.0 51.8 11.6 4.7 3.6	0.16 0.40 0.02 0.01 0.07 0.01	0.13 0.06 0.02 0.01 0.01 0.01	212 4.04 2.07 2.07 1.96 1.42 1.25	3.72 3.14 2.29 1.66 1.56 1.48	100.0 43.2 94.6 33.1 16.2 18.9 40.5
RGANIC	VOLATILES ORGANIC COMPOUNDS													-	_	
RICHLORO	TRICHLOROBTIFYLENB	u.	-	12.00	12.00	01	-	10.0	274	118	5.5	00'61	22.59	1.18	1.82	16.2

PLANT NAME: Peterborough PLANT TYPE: Secondary

SAMPLING TYPE: Final Emuent SAMPLE FORM: Wet Weight

GLOBAL % PREV. 77.8 000.0 000.0 000.0 000.0 000.0 89.3 89.3 87.1 87.1 87.1 87.1 87.9 221.4 7.1 14.3 14.3 7.1 7.1 GLOBAL SPREAD FACTOR 121 PLANT SPREAD FACTOR 32 1 2 5 5 5 5 5 5 5 222225 373 13.10 0.03 340.90 53.30 101.70 9.00 22.10 6.40 6.40 8.09 3.90 0.22 2.33 7.97 7.10 0.68 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0. 1.12 GEO. GEO. MEAN 30.00 50.00 50.00 50.00 10.00 10.00 10.00 3.29 8.06 6.98 0.25 2.52 2.52 2.53 7.47 7.47 574 0.08 0.01 0.01 0.01 0.01 GEO. MEAN GLOBAL % FREQ. DET. 99.1 88.2 88.2 83.0 83.0 99.6 99.6 7.6 GLOBAL DET. TE Sugase 333 SAMPLES GLOBAL 224 FREQ. DET. 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 20.0 20.0 10.0 10.0 20.0 PET. ~ 99999999 2022000444 SAMPLES PLANT ~ 9 2 2 2 2 2 2 2 2 2 2222222 - 9999999999 222 MIN. CONC. MAX. DET. 40.00 240.00 100.00 20.00 20.00 20.00 10.00 860 0.38 0.38 0.38 14.20 17.79 1.84 1.84 1.84 1.84 4.80 0.19 0.04 0.04 0.05 0.03 20.00 30.00 30.00 30.00 20.00 10.00 10.00 10.00 2.10 15.00 17.40 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 17.70 0.00 STD. FOR STD. REF. ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOB ONT-MOB ONT-MOB ONT-MOB NYS-GUI, ONT-MOB NYS-GUL NYS-STD S QC STD. FUR CODE! SURFACE 5.00 30.00 30.00 75.00 100.00 25.00 5.00 0.20 3.00 0.20 MATER UNITS 335 33333333 2222222222 333 GAMMA-BHC(HEXCHLORCYCLHEXANE) BETA-BHC (HEXCHLORCYCLIEXANE) 2,4-DICHLOROPHENOXYACETIC ACID CONTAMINANT NAME DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL PILT REAC. COBALT, UNFILT. TOTAL CADMIUM, UNFILT. TOTAL MOLYBDENUM, UNFILT. TOTAL PHOSPHORUS, UNFILT. TOTAL RESIDUE, PARTICULATE CHEMICAL OXYGEN DEMAND NITROGEN-TOT-KJEL, UNF.TOT BOD, 5 DAY -TOTAL DEMAND NITRATES, TOTAL FILT. REAC. STRONTIUM, UNFILT. TOTAL TRICHLOROBENTLENE BROMODICHLOROBENZENE CHLOROPORM CHROMIUM, UNFILT. TOTAL ALUMINUM, UNFILT. TOTAL MERCURY, UNFILT. TOTAL ALPHA-CHLORDANE GAMMA-CHLORDANE ENDOSULFAN SULPHATE VOLATILES ORGANIC COMPOUNDS COPPER UNITELT.TOTAL NICKEL, UNFILT: TOTAL NITRITE, PILT. REACT. ZINC, UNFILT: TOTAL PESTICIDES, HERBICIDES, PCBS (-FOG(H+(CONCN)) METHOXYCHLOR TOXAPHENE CONVENTIONALS XITRIC B2BDCL XIGHLO PIBHCG PITOX NNTKUR PIGHLA PIGHLA PIENDS NUOTIFIE PIDMDI PIBHCB INANI

	PLANT NAME : PLANT TYPE :	ME :	Peterb	orough						SAMPL	SAMPLING TYP SAMPLE FORM	SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight	Sludge			
CONTAM. INANT	CONTAMINANT NAME	UNITSQA/QC (DRY CODE) WEIGHT)	DDE M	PLANT IN. CONC. A > DL	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT S FREQ. DET.	GLOBAL.	GLOBAL # DET	GLOBAL. FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV
CONVENTIONALS	IONALS															
COD NNIFIPR NNOTIPR	CHEMICAL OXYGEN DEMAND AMMONIUM, TOTAL, FILT REAC, NITRATES, TOTAL, FILT REAC.	me/kg me/kg		-	1466334.16 15292.79 42.39	000	n n n	100.0	2 4 4	\$4\$	97.9	1075125.13 15000.21 36.56	892221.45 5911.32 25.44	1.55	3.19	100.0
NNTKUR PH PHUT	NITROGEN-TOT-KJEL,UNF.TOT (+LOC(H-(CXNCN)) PHENOLICS (4AAP) PHOSPHORUS,UNFILT-TOTAL		0 450	45045.05 6.03 299.25 22972.97	47381.55 6.17 337.84 23566.08	<b>~~~</b>	~~~	100.0	50 42 42	2 2 2 2	100.0 100.0 82.0	46198.53 6.10 317.96 23267.64	36897.85 6.03 82.34 20347.70	8.3.2.2	2.98 1.10 3.54 4.43	100.0 100.0 85.3
RST RSTI.01	RESIDUE, TOTALOSS ON IGNI.	T T			44400.00	77	22	100.0	51	25.	0.001	42195.26	32783.51 20803.05	1.07	1.81	100.0
METALS																
AGUT	SILVER,UNPILT, TOTAL	mg/kg		38.74	58.10	21	2 5	100.0	45	9 3	6.88	47.44	30.17	1.33	2.61	4.48
ASUT	ARSENIC, UNFILT TOTAL	1	000	3.15	6.48			0.001		3 3	0.95	4.52	6.13	99:1	2.01	97.1
COUT	COBALT, UNPILLTOTAL	mg/kg		19.20	19.20			100.0	- <del>-</del> -	2 00	73.2	19.20	9.29	000	69.4	73.3
500	COPPLR, UNFILT TOTAL.	mg/kg mg/kg		25.94	725.94	- 1	~ -	100.0	46	S 3	100.0	725.94	301.43	0.00	3.68	1000
HOLT	MERCURY, UNFILT, TOTAL.	mg/kg		1.80	2.49	~ ~	~ ~	100.0	200	S 5	100.0	2.12	2.23	1.26	1.67	1000
NICT	NICKEL, UNFILT TOTAL	T V		\$4.05	113.97	1 77 0	. ~ .	100.0	9 9	13:	95.7	78.49	59 17	\$	2.90	93.3
SEUT	SELENIUM, UNPILITOTAL	mg/kg		1.80	2.74	7 7	7 72	100.0	50	==	96.0	2.22	3.04	1.35	1.93	93.9
SRUT	STRONTHUM, UNPILE TOTAL. ZINC, UNFILE TOTAL.	me/kg mg/kg	- • /	121.85	162.09	77	7 7	100.0	25 25	2 2	100.0	140.54	231.70	1.22	2.39	0.001
BASENEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SOND														
PMMCRE PMPIGEN	M-CRESOL. PIENOL.	ugke ugke	1 6666	666666.70 93	950124.70	2 2	- 2	100.0	52	42	82.3	795874.70 6923.70	116847.30	1.28	3.00	38.2
DIOXINS	DIOXINS AND FURANS															
D98CDD	OCTACH, ORODIBENZODIOXIN	ughs	-	1.30	3.20	2	2	100.0	80	22	90.0	2.00	8.50	1.89	3.60	58.8
PESTICID	PEXTICIDES, HERBICIDES, PCBS															
PIBHCB	BETA-BHC (HEXCHLORCYCLIBIXANE)			13.50	87.30	7	2 :	100.0	<b>s</b> :	81 g	35.3	34.30	7.40	3.74	3.29	38.2
PIDMOT	METHOX YOU OR A STATE ACTION A		=	71.20	2743.10	4 69 6	2 77 7	0.001	3 5 5	61.	37.3	1792.40	45.80	1.83	5.15	44.1 R2.3
PIALDR	ALDRING DESCRIPTION OF TAXBURY AND ALDRING DESCRIPTION OF TAXBURY AND TAXBURY			7.50	7.50	4 (4 (		20.0		. 0 ]	11.8	4 20	9 5	2.31	2.50	17.7
PIBLICD	DELTA-BIRCHEXCHLORCYCLIEXANE)			7.50	7.50	7 77		\$0.0	1 57 5	300	6.8	4 20	4.00	2.31	2.22	8.8
PHENDS	ENDOSULEAN SULFITATION HEPTACHLOREFOXIDE	22		7.50	7.50	7 77		0.00	2 2 2	120	23.5	4 20	5 00	2.31	2.62	32.4
	NOTE OF THE PARTY	2 4 2 2		04.16	08:16	4	•	200								

PLANT NAME: Peterborough
PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Welght

CONTAM.	CONTAM: CONTAMINANT NAME	UNITSQA/QC. PLANT (DRY CODE MIN. CONC.		MAX. DET.	PLANT #	PLANT #	PLANT S. FREQ.	GLOBAL # SAMPLES	GLOBAL.	GLOBAL. SE FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL. % PREV.	
		WEIGHT)	> DF	CONC	SAMPLES						i	1				1
PIOCHI. PIPCBT PIPPDD PIPPDE X2HCB	OXYCHLORDANE PCB, TOTAL. PP-DDD PP-DDB HEXACHLOROBENZENE	ugks 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	20.00 49.90 5.00 6.80 12.50	20.00 49.90 5.00 6.80 12.50	<b>4444</b>		0.02 82 82 0.02 0.03 0.03 0.03	2222	40 13 17	15.7 78.4 25.5 43.1 33.3	6.80 52.50 3.40 4.10 5.40	4.50 88.70 5.10 7.30 5.60	4.62 1.07 1.73 2.03 3.31	2.27 3.18 2.48 2.31 2.65	20.6 79.4 35.3 38.2 38.2	
VOLATILA	VOLATILES ORGANIC COMPOUNDS															
ВЗМРХУ	B2MPXY M-, AND P-XYLENES	ug/kg 1	2743.10	2743.10	7	-	90.0	51	91	31.4	07:1111	1345.90	3.59	3.86	41.2	

ALBEAUNAS.

Peterborough	Secondary
NAME	TYPE
LANT	LANT

	GLOBAL % FREV.		100.0 95.0 95.0 100.0 100.0 100.0		100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	25		26.5 47.1 47.1 11.8 11.8 38.3 38.2 38.2 38.2 17.7 17.7 17.7 17.7 67.7 67.7 67.7 66.7 66
			50225555		552285552222225	3		8841888811212121
	GLOBAL SPREAD FACTOR		4.65 2.92 2.29 1.77 1.09 6.91 3.23 3.19 3.14		2.33 2.06 2.06 3.59 3.59 2.16 2.28 2.28 2.29 2.29 2.29 2.24 2.29	38.6		2 67 3 000 4 30 1 193 2 28 2 28 2 28 2 28 2 28 2 28 2 28 2 2
	PLANT SPREAD FACTOR		1.26		116 117 1113 1113 1113 1114 1114 1114	3.79		5.75 7.88 12.82 8.25 8.25 8.25 1.98 1.34 2.65 2.65 2.65 2.65 3.73 2.65 3.73 2.65 3.73 3.73 3.73 3.73 3.73 3.73 3.73 3.7
: Treated Sludge : Dry Weight	GLOBAL GEO. MEAN		\$08097.94 17658.28 42.68 38494.12 7.17 76638.67 80434.04 43379.33		37.78 10715.94 5.40 10.47 9.14 333.06 732.24 333.06 732.24 5.41 72.95 196.62 2.67 2.67 2.60 988.90	7.10		530 586 886 886 590 590 680 680 680 680 680 680 680 470 470 420 11410 11410 11110 1150 1150 1150 1150
	PLANT GEO. MEAN		941245.93 35127.06 6039 61530.59 7.40 3567.31 22990.13 15111.59		80.77 7668 25 6.35 2.16 27.48 8.79 08 1084.35 10.20 10.20 10.20 10.20 3.62 3.62 3.62 3.62 3.62 3.62 3.62 3.62	7.40		10.00 17.60 17.60 17.60 18.80 4.70 835.00 65.10 7.40 7.40 7.40 7.40 7.40 7.40 7.40 7.4
SAMPLING TYPE SAMPLE FORM	GLOBAL. * FREQ. DET.		100.0 100.0 88.5 100.0 100.0 100.0 100.0		100.0 100.0 98.0 91.1 82.1 100.0 98.0 98.0 96.0 100.0	53.1		22.0 22.0 38.0 38.0 24.0 42.0 30.0 12.0 12.0 12.0 64.0 65.0 80.0
SAMPL	GLOBAL # DET		23.8 23.8 4.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5		5 6 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	79		11 1 2 4 2 2 2 2 3 5 6 8 6 5 8 5 5 5 5 5 5 5 5 5 5 5 5 5 5
	GLOBAL #		8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		468888888888888888888888888888888888888	64		888888888888888888888888888888888888888
	PLANT % FREQ. DET.		0.0001		0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0	9		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
	PLANT # DET.				0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	-		
	PLANT # SAMPLES		~~~~~~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
	PLANT MAX. DET. CONC.		39694.66 39694.66 32.44 62977.10 7.76 37595.42 34100.00 17360.00 248.09		89.69 8020.61 6.87 2.35 27.48 901.53 1084.35 11.45 11.45 2.93 10.954 4.96 2.39.69	2.90		34.40 53.40 106.90 11.50 26.70 76.30 36.26 19.10 11.50 22.70 72.50 72.50 72.90 16.13 16.13 76.34 76.340
Peterborough Secondary	UNITSQA/QC PLANT (DRY CODE MIN. CONG. VEIGHT) > DL		797653.96 1 31085.04 1085.04 60117.30 7.06 33724.34 26200.00 13200.00 248.09		72.73 7331.38 5.87 1.98 27.48 762.46 1084.35 2.67 9.09 87.98 22.64 199.12	290		34.40 53.40 106.90 11.50 26.70 26.70 26.70 11.50 11.50 22.70 22.70 22.90 45.80 160.81
	CODE T)		00000000		0000000000000	-		
PE	UNITSQ/ (DRY CX WEIGHT)					ueAe		
PLANT NAME : PLANT TYPE :	CONTAM: CONTAMINANT NAME	HONALS	CHEMICAL OXYGEN DEMAND AMMONIUM, TOTAL PILT REAC. NITRATES, TOTAL PILT REAC. NITROGEN TOT KLEL, UNP. TOT (4.0X6H+(CONCN)) PHOSEN GONES, UNPILT, TOTAL. RESIDUE, TOTAL. RESIDUE, TOTAL. RESIDUE, TOTAL.		SILVER, UNTIL TOTAL. ALLMINIM, UNDIL L'EOTAL. ARSENIC, UNEIL L'EOTAL. CODMILIM, L'ENFIT TOTAL. COBALT, UNEIL TOTAL. CORRES, L'EUNEIL TOTAL. CORRES, L'UNEIL TOTAL. CORRES, L'UNEIL TOTAL. MOLVBIER, UNEIL TOTAL. NOCKEL, LUNIT TOTAL. NOCKEL, LUNIT TOTAL. SELAD, UNIT, TOTAL. SELAD, UNIT, TOTAL. SELANDA, UNEIL TOTAL.	DIOXINS AND FURANS.  98(T)D OXTACH ORODIBENZODIOXIN	PESTICIDES, HERBICIDES, PCBS	ALDRIN  ALJARA BHCGIEXCHLORCYCLJEXANE)  BELA HIC (HEXCHLORCYCLJEXANE)  DELTA BHCGIEXCHLORCYCLJEXANE)  GAMMA CHICKINCHLORCYCLJEXANE)  GAMMA CHICKINCHLORCYCLJEXANE)  BELDBRIN  METHOXYCHLOR  HEPTACHLOR  MIREX  OXYCHLORD  PEBDE  PEBDI  PEBJI  P
	CONTAM	CONVENTIONALS	COD NNHTPR NNOTPR NNTKUR PH PRUT PRUT RST RSTI.OI	METALS	AGUT ABUT COUT CCOUT CCOUT CCOUT CCOUT HOUT MOUT NOUT SEUT SEUT	DIOXINS /	PESTICIB	PIALDR PIBLICA PIBLICE PIBLICE PICE PICE PICE PICE PICE PICE PICE P

CONTAMINANT NAME UNITSQA/QC PLANT FLANT (DRY CODE MIN. CONC. MAX. DET. WEIGHT) > DL CONC. MEIGHT) > DL CONC. MEIGH		D4 4 MT				E FURM	SAMPLE FORM : Dry Weignt				
UP/8 3 419.80 UP/8 3 419.80 UP/8 3 80.20 UP/8 2 42.00 US/8 2 42.00	F. *SAMPLES	DET.	PLANT FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL, SPREAD FACTOR	GLOBAL & PREV.
ICHLOROBENZENE unks 3 80.20 ILOROBENZENE unks 2 42.00	3	-	0.08	95	8	36.0	78.60	92.70	10.70	2.94	14.1
ug/kg 2 42.00	~	-	50.0	20	22	44.0	15.30	14.80	10.46	5.02	52.9
	2	1	50.0	20	21	42.0	11.00	7.00	6.62	2.96	55.9
3 11.30	2	_	90.0	20	-	2.0	5.80	3.70	2.65	<b>3</b> :	2.9

CONTAM. CONTA

PSSII.V X2124 X2HCB X2HCE

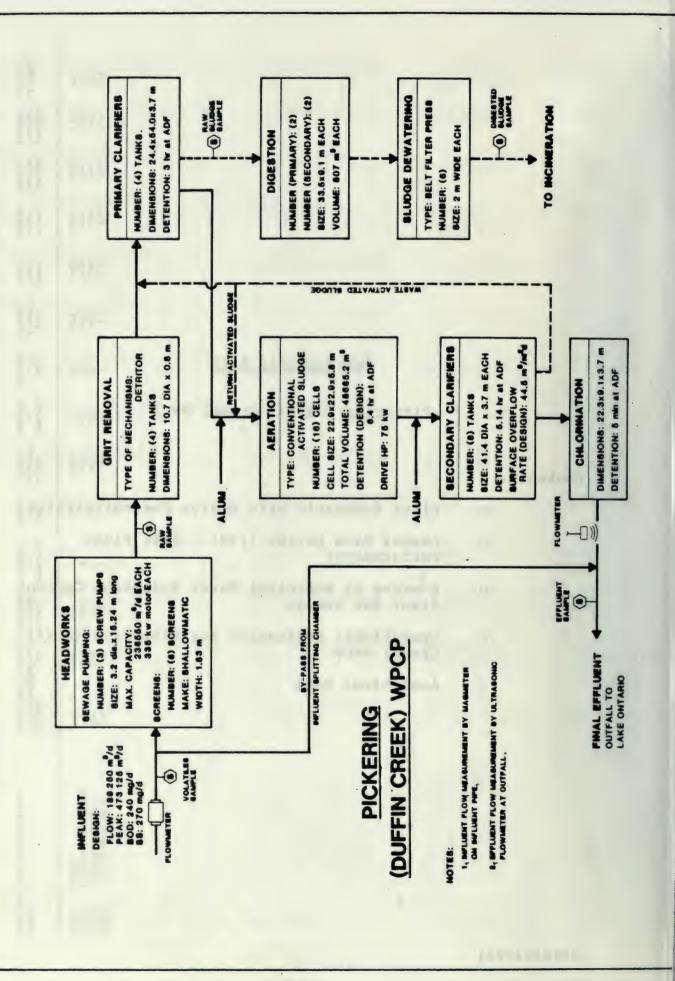
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# Sub-Appendix A-23

Pickering (Duffin Creek) WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- Operational Evaluation for Pickering (Duffin Creek) WPCP
- o Analytical Data



YORK-DURHAM WPCP Conventional Activated Sludge Phosphorus Removal - Continuous Capacity - 181.848 18(3)a3/day

PARAMETER	1 1 1 1981	1982	1983	1984	1985	MEAN ANNUAL AVERAGE
Avg. Daily Flow (1888 m3/day)	41.37	84.51	95.12	121.13	150.00	98.43
BOD5 - Influent (mg/L) BOD5 - Effluent (mg/L) Annual BOD5 Significantly	288.58	124.18	193.97	159.88	144.24	164.88 15.74
Different from Mean Annual Average BOD5?	i I.D.	I.D.	I.D.	I.D.	I.D.	! !
TSS - Influent (eg/L) TSS - Effluent (eg/L) Annual TSS Significantly	246.89	183.68 12.28	287.98 25.17	252.84 15.92	251.38 15.59	244.36 17.38
Different from Mean Annual Average TSS?	I.D.	1.0.	1.0.	I.D.	1.D.	
Total P - Influent (mg/L) Total P - Effluent (mg/L) Annual TP Significantly	7.88	7.81	B.BB 1.73	7.19 8.98	6.13	7.88
Different from Mean Annual Average TP? TP in Compliance?	i I.D.	i I.D.	1.D.	I.D.	i I.D.	! ! ! N

I.D. - Insufficient Data

# SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

# GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE  DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	DUFFIN CREEK WPCP 120001915 CONVENTIONAL ACTIVATED SLUDGE PHOSPHORUS REMOVAL CONTINUOUS 181.840 163.179 64386
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	25
COMMERCIAL SOURCES (%) (Population x 0.0757)	3
RESIDENTIAL SOURCES (%) (Population x 0.175)	7
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from industrial, commercial and residential sources)	N 65
PROFILE OF INDUSTRIES IN CATCHMENT	

# INDUSTRIES WITH WATER 146 NO OF SIC CATEGORIES 55

TOTAL NO OF INDUSTRIES

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

SIC	# OF
14 2	COMPANIES
3070-3079	46
3411-3469	75
2700-2799	162
2510-2599	62
3331-3369	8
	3070-3079 3411-3469 2700-2799 2510-2599

1185

# PICKERING (DUFFIN CREEK) WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: April 3, 1987

PERIOD ENDING: April 3, 1987 SAMPLING SEASON: Winter (Cold Weather)

DESIGN AV6 FLOW: 189,250 m3/d

				PRE-SA	MPLING PER	100		
5 8 8 8 2 9 1 9	PARAMETER				DAY 4			DAY 7
2 # 2 # 2 # 2 # 2 #	RAW SEWAGE FLOW	169,940	175,920	147,610	168,390	163,290		156,170
	I of Design Flow	89.802	92.96%	79.051	1	86.28%	87.712	82.527
-	Influent BOD (mg/L)					140.0		
1 1	Primary BOD (mg/L)	:	1	2		110.0 :	3	
3 2 3 8	Secondary BOD (mg/L)	;	1	:	1	12.0 ;	1	8
2 S 3 S	Z PRIMARY REMOVAL	1	1	*	:	21.4 1	3	
9 8	I SECONDARY REMOVAL	:	1 2	1	:	91.4 1		0
11-	Influent SS (mg/L)	205.0	229.0	224.0	284.0	229.0 1	,	230.0
11		83.0 :						230.0
11		5.0		7.0 1				
11	I PRIMARY REMOVAL	59.5						3.0
11	% SECONDARY REMOVAL	97.6						
11-	* OCCUMENT REMOTE							
11	Influent NH4 (mg/L)		1	1	!	1	1	1
11	Primary NH4 (mg/L)	;	1	# #	1	8	1	
11	Secondary NH4 (mg/L)	1	1	B 3	1	1 1	2 1	8
3.3 1.3	% PRIMARY REMOVAL	1	1 1	2 2	8 2	1	2	1 8
11	I SECONDARY REMOVAL		1	1	1	1	1	1
11-	Influent TKW (mg/L)	(		;		;		
11	Primary TKN (mg/L)	1 1	1	1		1	1	9
11	Secondary TKN (ag/L)	: :	:	:	!		!	8
1 1	2 PRIMARY REMOVAL		:		:			
11	I SECONDARY REMOVAL			i				
11-								
11	Influent Total P (mg/L)	5.50	1	10.80 ;	4	8.90 1	3 3	1
3 3 1 2	Primary Total P (mg/L)	3 3	1	1	1	1	1	3
11	Secondary Total P (mg/L)	0.23	0.50 :	0.30 :	0.50 :	0.20 1	0.78 :	0.20 :
11	% PRIMARY REMOVAL	1 1	3	1 1	1 2	;	1	ì
1 1	1 SECONDARY REMOVAL	95.8 1	2 2	97.2 :	1	97.8 :	š	1

# OPERATIONAL EVALUATION FOR: PICKERING (DUFFIN CREEK) NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: April 3, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 189,250 m3/d

			PRE-SA	MPLING PER	100		
PARAMETER	1 DAY 8 1	DAY 9	DAY 10 :	DAY 11 -		DAY 13	
RAW SEWAGE FLOW		168,550 :	154,690	178,270	:		
l % of Design Flow	88.971 1	89.06Z	81.742	94.201	89.24%	85.55%	85.981
Influent BOD (ag/L)	 			216.0			
Primary BOD (mg/L) Secondary BOD (mg/L) I PRIMARY REMOVAL	i i i i	1	1 2 3	22.0	1		
2 SECONDARY REMOVAL				89.8			
	233.0						190.0
Primary SS (mg/L)	139.0 1	221.0 1			97.0 :		
Secondary SS (mg/L) % PRIMARY REMOVAL	1 9.0 t						
Z SECONDARY REMOVAL	96.1						
Influent NH4 (mg/L)	{} 				; 		
Primary NH4 (mg/L)	1	;	:	1	1		
Secondary NH4 (mg/L)	! !	1		:			
Z PRIMARY REMOVAL	;			i	i		
2 SECONDARY REMOVAL	i 	i	i				
Influent TKN (mg/L) Primary TKN (mg/L)		3	1	;	1	1	-110
Secondary TKN (ag/L)					,		
I PRIMARY REMOVAL			1	3	2		
1 SECONDARY REMOVAL	: :	1	1	;	i	1	
	{						
Influent Total P (mg/L)	6.08				7.75 1		
Primary Total P (mg/L)		0.05	0.45	1	0.10	0.00	0.00
Secondary Total P (mg/L)	1 0.20 1	0.05	0.15	i	0.10 :	0.08	0.08
Z PRIMARY REMOVAL	96.7	i		i	98.7 1		
I A OLDUNDANI REMUTAL	10.71				10.11		

# PICKERING (DUFFIN CREEK) WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: April 3, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVG FLOW: 189,250 m3/d

PARAMETER							SAMP	LING PERI	מכ				
RAW SEMAGE FLOW	-		DAY 1	5 ;	DAY 16	I DAY 1	7 :						
Influent BOD (mg/L)			: :	:		:	:		:		 	1	 -
104.86%   98.58%   107.57%   123.17%   134.02%	)N		198,4	40	186,560	: 203,5	70 :	233,090	253	,630		1	
Influent BOD (mg/L)	nı		1 104.	842:	98.58	1 L: 107.	57%	123, 172	i ! 13	4.02%		i	
Influent BOD (mg/L)		•	1	1	70100	1	1	110117	1	11023		;	
Primary BOD (mg/L)				!							 	-;	 -
Secondary BOD (mg/L)				i								i	
Z PRIMARY REMOVAL   65.0   10.5   25.0     Z SECONDARY REMOVAL   90.9   83.2   51.8     Influent SS (mg/L)   197.0   209.0   158.0   141.0   209.0     Primary SS (mg/L)   102.0   112.0   97.0   122.0   71.0     Secondary SS (mg/L)   5.0   4.0   9.0   5.0   5.0     Z PRIMARY REMOVAL   48.2   46.4   38.6   13.5   66.0     Z SECONDARY REMOVAL   97.5   98.1   94.3   96.5   97.6     Influent NH4 (mg/L)   97.5   98.1   94.3   96.5   97.6     Influent TKN (mg/L)   97.5   98.1   94.3   96.5   97.6     Influent TKN (mg/L)   97.5   98.1   97.5   97.6     Influent TKN (mg/L)   97.5   97.6   97.6     Influent Total P (mg/L)   97.5   97.6   97.6   97.6     Influent Total P (mg/L)   97.5   97.6   97.6   97.6   97.6     Influent Total P (mg/L)   97.5   97.6   97.6   97.6   97.6     Influent Total P (mg/L)   97.5   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.6   97.	-		i	i								i	
Influent SS (mg/L)		•	1	1								1	
Influent SS (mg/L)			1									1	
Influent SS (mg/L)	.110	DAUF .	!	!								- !	 
Primary SS (mg/L)   102.0   112.0   97.0   122.0   71.0     Secondary SS (mg/L)   5.0   4.0   9.0   5.0   5.0     I PRIMARY REMOVAL   48.2   46.4   38.6   13.5   66.0     I SECONDARY REMOVAL   97.5   98.1   94.3   96.5   97.6	10/	/L)	197	.0	209.0	1 158	.0 :	141.0	2	09.0		;	
Secondary SS (mg/L)   5.0   4.0   9.0   5.0   5.0       I PRIMARY REMOVAL   48.2   46.4   38.6   13.5   66.0     I SECONDARY REMOVAL   97.5   98.1   94.3   96.5   97.6     Influent NH4 (mg/L)			1 102	.0 :			.0 ;			71.0			
I PRIMARY REMOVAL			: 5	.0 :	4.0	: 9	.0 :	5.0		5.0		t s	
Influent NH4 (mg/L)   Primary NH4 (mg/L)   Secondary NH4 (mg/L)   I PRIMARY REMOVAL   I SECONDARY REMOVAL   Influent TKN (mg/L)   Primary TKN (mg/L)   Secondary TKN (mg/L)   I PRIMARY REMOVAL   I SECONDARY REMOVAL	346	AL	48	.2 :			.6 :	13.5	1	66.0		1	
Influent NH4 (mg/L)   Primary NH4 (mg/L)   Secondary NH4 (mg/L)   I PRIMARY REMOVAL   I SECONDARY REMOVAL   Influent TKN (mg/L)   Primary TKN (mg/L)   Secondary TKN (mg/L)   I PRIMARY REMOVAL   I SECONDARY REMOVAL	M	DVAL	97	.5 :	98.1	1 94	.3 !	96.5	1	97.6		1	
Primary NH4 (mg/L)			ļ			-	}		;		 	-	 - 000
Secondary NH4 (mg/L)  I PRIMARY REMOVAL  I SECONDARY REMOVAL  Influent TKN (mg/L)  Secondary TKN (mg/L)  I PRIMARY REMOVAL  I SECONDARY REMOVAL  I SECONDARY REMOVAL  Influent Total P (mg/L)  Primary Total P (mg/L)  Influent Total P (mg/L)			1	1			1		1	1		1	
I PRIMARY REMOVAL  Influent TKN (mg/L)  Primary TKN (mg/L)  Secondary TKN (mg/L)  I PRIMARY REMOVAL  I SECONDARY REMOVAL  I SECONDARY REMOVAL  Influent Total P (mg/L)  A 48  Primary Total P (mg/L)	-		1	1		1	1		1	1		1	
Influent TKN (mg/L)		-	1	1		-	1		1			1	
Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL Influent Total P (mg/L) Primary Total P (mg/L)			:	;			:		:			1	
Primary TKN (mg/L)	: MI	UVAL	: 	!		: -!			: !		 	; _!	
Primary TKN (mg/L)	( mc	g/L)	1			1	,		) 1				
I PRIMARY REMOVAL	99	/L)	1			1	1		1	1		1	
I SECONDARY REMOVAL	14	eg/L)	1	;		1	1		1	1		1	
	OV	AL	1	1		E B	- 1		1	1		1	
! Influent Total P (mg/L) ! 6.48 ! ! 11.00 ! 7.40 ! ! Primary Total P (mg/L) ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	EH(	OVAL	:	-		1 1	ł		:	;		-	
! Primary Total P (mg/L) ! ! ! ! !						-					 	-	 -
			6.	48		11.	00 1			7.40		1	
Secondary (otal P (mg/L)   0.04     0.30   0.10   0.20			1	1		1						1	
		-	0.	04		. 0.	30 !	0.10		0.20		;	
: % PRIMARY REMOVAL : : : : : : : : : : : : : : : : : : :			1 00				-		i			i	

# PICKERING (DUFFIN CREEK) NPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: May 22, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: 189,250 m3/d

				PRE-SA	MPLING PER	COD		
	PARAMETER	DAY 1	DAY 2 1	DAY 3 :	DAY 4 :	DAY 5		DAY 7
				,				
	RAW SEWAGE FLOW	157,050	167,080	163,530	165,220	163,740	156,680	158,100
	% of Design Flow	82.99%	88.292	86.412:	87.302:	86.52%	82.79%	83.54%
	Influent BOD (mg/L)			153.0	189.0 :	386.0		
	Primary BOD (mg/L)		1	203.0 1	35.0 1	182.0 ;	1	
	Secondary BOD (mg/L)	1	1	43.0 !	37.0 1	25.0 1	1	
	Z PRIMARY REMOVAL			-32.7 1	81.5 1	52.8 1	1	
	Z SECONDARY REMOVAL			71.9 !	80.4 :	93.5 :	ł.	
	Influent SS (mg/L)	257.0	306.0 1	218.0	298.0	228.0	265.0 (	212.0
	Primary SS (mg/L)	357.0	319.0 1	332.0 1	320.0 :	493.0 :	- ;	
	Secondary SS (mg/L)	12.0 1	14.0 !	17.0 :	321.0 :	3.0 1	68.0 !	15.0
	I PRIMARY REMOVAL	-38.9 1	-4.2 1	-52.3 1	-7.4 1		1	
!	% SECONDARY REMOVAL	95.3 (	95.4 1	92.2 {	-7.7 (	98.7 :	74.3 {	92.9
	Influent NH4 (mg/L)				i	i		
1	Primary NH4 (mg/L)	1	1	1	1	1	1	
	Secondary NH4 (mg/L)	1	1	1	1	1	1	
	I PRIMARY REMOVAL		1	1	1	1	1	
	Z SECONDARY REMOVAL							
	Influent TKN (mg/L)				1			
1	Primary TKN (mg/L)	1	1	1	4	1	1	
1	Secondary TKN (mg/L)	1	1	1	1	1	1	
1	I PRIMARY REMOVAL	1	1	1	1	;	1	
	Z SECONDARY REMOVAL	1	1	1	1	1	1	
: :	1-(1 Tatal D (/1)	6.76		7.98 (		5.08 (		
3 9	Influent Total P (mg/L) Primary Total P (mg/L)	0./0 i	1	/.70 i	i	J. 08 i	1	
9	Secondary Total P (mg/L)	0.68		1.02	1	0.83	;	
9	Z PRIMARY REMOVAL	1		1102		1		
1	% SECONDARY REMOVAL	89.9		87.2		83.7 1	i	

# PICKERING (DUFFIN CREEK) NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: May 22, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 189,250 m3/d

222				*********		***********		
				PRE-SA	MPLING PER	100		
11	PARAMETER		DAY 9 :					DAY 14
11	RAN SEWAGE FLOW	160,140	163,179	163,520	170,620	172,750	142,910	135,280
	I of Design Flow	84.62%	86.22%				75.511	
11-	Influent BOD (mg/L)				172.0	213.0		
11	Primary BOD (mg/L)				38.0			
11	Secondary BOD (mg/L)				3.0 ;			
11	I PRIMARY REMOVAL			1	77.9 :	58.7 1	1	
11	% SECONDARY REMOVAL		1		98.3		1	
11-	Influent SS (mg/L)	202.0	274.0	271.0		215.0	237.0	237.0
11	Primary SS (mg/L)	750.0 :	331.0 1	133.0 :	94.0 1	56.0 1	;	
7 1	Secondary SS (mg/L)	21.0 :	25.0	19.0 :	9.0 :	8.0 :	28.0	28.0
11	I PRIMARY REMOVAL	-271.3 :	-20.8	50.9 ;	63.6 1	74.0 ;	:	
11	Z SECONDARY REMOVAL	89.6	90.9	93.0 :	96.5	96.3 :	88.2	88.2
11	Influent NH4 (mg/L)			i		i	i	
8 8 8 1	Primary NH4 (mg/L)	1	1	1	1	1	1	
11	Secondary NH4 (mg/L)	1	1	. 1	!	1	1 1	
11	I PRIMARY REMOVAL	1	1	1	1	1	1 1	
11	% SECONDARY REMOVAL			;	;			
11	Influent TKN (mg/L)	1	1	:	1	:	;	
11	Primary TKN (mg/L)	1		:	2 2	1	1	
11	Secondary TKN (mg/L)	;	i	:	1	1	1 1	
11	I PRIMARY REMOVAL	1	1	8 8	3	8 9	2 2	
	1 SECONDARY REMOVAL		3	1	1	1 1	1	
11-	7-/1							
11	Influent Total P (mg/L)		8.25			6.91	1	
	Primary Total P (mg/L)		6.98 :			3.89	1	1
11	Secondary Total P (mg/L) Z PRIMARY REMOVAL		0.81	1.50 :		47.7	i	
11	Z SECONDARY REMOVAL	i	15.4 :	14.2 1	i	43.7	i	
	1 SELUNDARY KEMUVAL	i	90.2 :	84.8	1	i	i	

# OPERATIONAL EVALUATION FOR: PICKERING (DUFFIN CREEK) WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: May 22, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: 189,250 m3/d

			SAMP	LING PERIO	D		
PARAMETER	DAY 15 :	DAY 16 :	DAY 17 (		DAY 19 1	DAY 20	
RAW SEWAGE FLOW	144,060	166,320 :	166,590 ;	1	1		1
	1	1	1	1	:		1
Z of Design Flow	76.12%	87.88%	88.03%	80.24%	85.47%;		1
Influent BOD (mg/L)							 
Primary BOD (mg/L)					1		1
Secondary BOD (mg/L) I PRIMARY REMOVAL		i,			0.00		1
Z SECONDARY REMOVAL			i				1
Influent SS (mg/L)	237.0 1	222.0 :		166.0 ;			1
Primary SS (mg/L)		91.0 :			304.0 1		1
Secondary SS (ag/L)	28.0	22.0 1			11.0 !		1
1 PRIMARY REMOVAL 2 SECONDARY REMOVAL	88.2 1	59.0 i	-164.1 : 85.3 :	64.5 1 92.8 1	-55.9 t		i
* GEOUNDANT REHIGTAL							!
Influent NH4 (mg/L)	1	1 /1	1 1	1	1		1
Primary NH4 (mg/L)	! !	:	1 1	:	1		1-211-
Secondary NH4 (ag/L)			1	1	1		1
Z PRIMARY REMOVAL Z SECONDARY REMOVAL	i i	i	i	i	i		1
2 DECUMUNAT REMOVAL	!				!		!
Influent TKN (mg/L)			i	1			1
Primary TKN (mg/L)	1	1	1	1	;		1
Secondary TKN (ag/L)		1	1	1			
Z PRIMARY REMOVAL Z SECONDARY REMOVAL							i
& SECUNDANT KENUVAL	i {}	!	i !	i !	i !		
Influent Total P (mg/L)		1000	5.44		7.93 :		1
Primary Total P (mg/L)	1	1	6.60 :	+	9.99 1		1
Secondary Total P (mg/L)		0.60 1	1	0.60 ;			1
Z PRIMARY REMOVAL Z SECONDARY REMOVAL			-21.3 !		-26.0 :		

Creek)	
Pickering (Duffin	Secondary
	••
NAME	TYPE
PLANT	PLANT

	CONTAM- INANT	Nanno	Bobs	NNHTPR NNTKUR PH	RSP NNO2FR NNOTFR	MINOL	METALS	ALUT	SRUT	CCNFUR	PBUT	COUT	BASENE	PMMCRE	PESTICIL	P324D P1BHCG P1BHCB P1BHCB P1DMDT P1PPDE	VOLATIL	XIACRO	XIGHTO
PLANT NAME: Pickering (Duffin Creek) PLANT TYPE: Secondury	4- CONTAMINANT NAME	CONVENTIONALS	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON		PHOSPHORUS, DNFTL, TOTAL RESIDUE, PARTICULATE NITRIFE, TILL, REACT. NITRATES, TOTAL, FILT, REAC.			ALUMINUM UNFILT.TOTAL CHROMIUM UNFILT.TOTAL COPPER LIPPET, TOTAL	STRONTIUM, UNFILL TOTAL	CYANIDE-FREE, UNFILT. REAC.	LEAD, UNINIT, TOTAL SILVER, UNFILT, TOTAL	COBALT, UNITET TOTAL MOLYBDBNUM, UNFELT TOTAL	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	M-CRESOL PHENOL	PESTICIDES, HERBICIDES, PCBS	2,4-DICHLOROPHENOXYACETIC ACID GAMMA-BHC(HEXCHJORCYCLJHEXANE) ENDOSUL FAN SULPHATE BHTA-BHC (HEXCHLORCYCLJHEXANE) METHOXYCHLOR PEDDE PCB, TOTAL	VOLATILES ORGANIC COMPOUNDS		CHLOROPORM
ME:	COD COD		A NA	22		m m		555	33	55	35	22	SUNDO	22		\$ \$ \$ \$ \$ \$ \$ \$		L. C.	2
Pick	CODE		000		0000			0000		000	000	00		- 0		8888		3	
: Pickering (Duff : Secondary	QC PLANT CODE MIN. CONC.		47.00 174.00 16.00	24.00	28.00 0.05 0.75	0.00		30.00	230.00	10.00	110.00	30.00		19.60		0.16 0.02 0.27 0.02 0.20 0.06 0.17		9200.00	110.00
fin Creek)	PLANT MAX. DET. CONC.		240.00 490.00 27.00	37.20	212.00	0.0		\$900.00 \$00.00 340.00	340.00	70.00	30.00	30.00		326.60		0.04 0.04 0.03 0.20 0.22 0.17		9200.00	110.00
	PLANT # SAMPLES		200	0 0 0	.000	2		====	2=:	01:	==	==		0 0 0		222222		10	10
	PLANT # DET.		000	000	nonn	4		===9	2=:	300	- N -#	e		80 ==		0752221		-	-
	PLANT % FREQ. DET.		100.0	100.0	0000 0000 30.0	D. O.		100.0	0.00	90.0	36.4	9.1		10.0		200.0 200.0 200.0 200.0 200.0 100.0		10.0	10.0
	GLOBAL # SAMPLES		267 260 271	273	265 275 275 275	613		322	318	271	322	322		275 275		276 276 276 276 276 276		274	274
SAMPL	GLOBAL		266 258 271	273	25 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			306 237 48	318	82	82	82 41		167		214 13 32 47 42		1	28
SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight	GLOBAL % FREQ. DET.		99.2	100.0	21.4 21.4 10.2	CE!		95.0 98.0 98.0	888	30.5	17.7	12.8		42.9		77.5 818 116 170 54 152		0.4	10.2
: Raw Sewage: Wet Weight	FLANT GEO. MEAN		298.93 20.30	7.02	532 102.29 0.03 0.14	97.0		230.00	290.00	20.00	00.00	10.00		18.84		0.36 0.02 0.01 0.07 0.05		293.30	23.72
ewage	GEO. GEO. MEAN		140.23 287.75 22.39	25.44	5.18 0.01 0.05	īça		\$1.10 \$1.10 \$1.00 \$1.00 \$1.00	370.70	06.11.20	59.50	930		25.59		0.13 0.02 0.04 0.01 0.08 0.01		202.81	23.90
	PLANT SPREAD FACTOR		1.69	1.20	1.19 1.83 10.05 5.06	707		247	1.12	2.47	203	1.39		3.38		1.82 1.64 3.21 1.79 2.93 2.43		3.36	1.71
	GLOBAL SPREAD FACTOR		1.93	147	585	507		3.44	214	6.88	1.86	231		3.45		372 228 1.56 1.66 3.14 2.31		1.26	1.75
	GLOBAL		0001	100.0	1000 32.4 1000	8/16		97.3 97.1	0.00	32.4	51.4	83.8		78.4		1000 1600 1600 1600 1600 1600 1600 1600		2.7	32.4
		1																	

PLANT NAME: Pickering (Duffin Creek)
PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wel Welght

CONTAM-	CONTAMINANT NAME	UNITS QC CODE	CODE MIN. CONC.	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL * FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.
	9					100	E.S	W	-	517	0.3	12.0	127		177
CONVENTIONALS	ONALS							,							
Bobs	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND	men o	174.00	240.00	010	22	100.0	260	256	99.6	115.47 298.93	140.23	1.69	1.93	100.0
DOC	DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL FILT. REAC.	me/ o	14.20	21.20	2 2	0 0	100.0	275	274	99.6	17.64	15.37	8 = 1	181	100.0
NNTKUR	NITROGEN-TOT-KJEL,UNP.TOT		24.00	37.20	0 :	01	100.0	273	273	100.0	29.87	25.44	1.20	1.47	100.0
PPUT	(-LOC(H+(CONCN)) PHOSPHORUS,UNFILT.TOTAL	me/L 0	4.20	6.70	5 ×	 	100.0	248	248	0.00.	5.32	6.90 5.18	61.1	1.05	0.001
RSP	RESIDUE, PARTICULATE	med. 0	28.00	212.00	0 9	0.4	100.0	267	266	99.6	102.29	126.88	1.83	1.93	0.001
NNOTHR	NITRATES, TOTAL PILT. REAC.		0.75	230	200	9 60	30.0	275	3 8 8	10.2	0.14	0.05	5.06	233	32.4
			2000		2						0.00		10.7	503	21.8
METALS															
ALUT	ALUMINUM, UNFILT. TOTAL	ug/L 0	1100.00	8900.00	=	11	100.0	322	306	95.0	2400.00	1000.10	1.77	2.65	97.3
CRUT	CHROMIUM, UNFILT. TOTAL COPPER LINFILT. TOTAL	us.A. o	340.00	340.00	=-	=-	100.0	322	237	73.6	230.00	51.10	247	3.44	89.2
HOUT	MERCURY, UNFILT TOTAL		0.13	0.48	0 :	9	100.0	283	274	86.8	0.24	0.23	1.64	2117	10001
SRUT	STRONTIUM, UNPIL, TOTAL. ZING UNPIL, TOTAL.	us/L o	100.00	340.00	==	==	100.0	319	318	99.7	300.00	370.70	1.12	2.14	0.001
CCNPUR	CYANIDE-FREE, UNFILT REAC.		10.00	70.00	9	0.1	90.0	27.1	82	30.3	20.00	1.90	247	6.88	32.4
PRIT	NICKEL, UNFILT TOTAL  [FAD UNFILT TOTAL	ug/L o	10.00	380.00	==	- ~	63.6	322	103	32.0	90.00	38.80	2.97	270	3.3
AGUT	SILVER, UNFILT. TOTAL		20.00	30.00	=:	<b>**</b> 1	36.4	321	22	25.6	10.00	10.40	225	255	75.7
MOUT	MOLY BDENUM, UNFILT TOTAL	10 O	30.00	30.00	==	n	9.1	321	7 1	12.8	10.00	12.40	139	172	83.8
BASE NEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SONI													
PMIMCRE	M-CRESOL PHENOL	ugh 1	19.60	326.60	22	s 1	50.0	27.5	167	60.7	18.84	25.59	3.38	3.45	86.5 78.4
PESTICIDE	PESTICIDES, HERBICIDES, PCBS														
P324D	24-DIGHLOROPHENOXYACETIC ACID	ueA. 3	0.16	1.00	10	10	100.0	276	214	7.15	92.0	013	1.83	173	0001
PIBHCG	GAMMA-BHCGEXCHLORCYCLHEXANE) ENDOSULPAN SULPHATE		0.02	0.04	2 2 2	r m	30.0	276	143	51.8	0.02	0.00	1.64	223	946
PIBHCB	BETA-BHC (HEXCHLORCYCLHEXANE) METHOXYCHLOR	ued. 1	0.02	0.03	9 9	~ ~	20.0	276	32	11.6	0.01	0.01	1.48	99 7	35.1
PIPPOB	PP-DDE PCB, TOTAL	ueA. 1	0.00	0.22	010	7 -	20.0	276	15	5.4	0.02	10.0	2.93	1.74	243
						7			:			9000	Ē.	ā	N'Ot
VOLATILE	VOLATILES ORGANIC COMPOUNDS														
XIACRO	ACROLEIN	ue/L 3	9200.00	9200.00	10	-	10.0	274	-	0.4	293.30	202.81	3.36	1.26	27
XIGIIO	CHLOROFORM	- 75 n	110.00	110.00	10		10.0	274	28	10.2	23.72	23.90	17.1	1.75	324

Controller   Con	\$10. FOR STD. BEP. FLANT FLANT WATER  WATER  VATER  VATER  VATER  SUBFACE  WATER  WHN. CONC. MAX. DET.  SUB. C		THE STATE	SAMPLE FORM		: wet weignt				
December   Part   Par	DEMAND   mg/L   0   0   0   0   0   0   0   0   0		GLOBAL # SAMPLES		GLOBAL * FREQ. DET.		GEOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
DEMAND: with 0	DEMAND									
The color of the	Linkping		213	200	99.1 100.0 91.5	57.98 8.43 11.48	\$2.80 8.09 3.90	121	1.83	100.0
THOUGH with 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TITOTAL mg/L 0		222	222	100.0	7.01	7.97	101	1.05	100.0
Figure   F	LT.REAC. mg/L 0 0.00 ONT-MOE 0.23 0.47 0.74 0.00 ONT-MOE 0.23 0.47 0.47 0.00 ONT-MOE 0.23 0.47 0.47 0.40 0.00 ONT-MOE 0.23 0.47 0.47 0.40 0.40 0.47 0.47 0.40 0.47 0.47		211 220 213	219	99.6	21.26	10.12	203	2002	0001
Column   C	NATE   Name   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   10		220 224 225	194	88.2 83.0 14.7	6.16	233	7.25	5.95 7.75 1.86	96.4 96.4 53.6
Column   C	TAL.    Unit									
Mail	AL		47	30	8.38	0.03	13.10		2.562	17.8
TITTELEC.  1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	TOTAL   Ug/L   0   30.00   ONT-MOB   50.00   160.00		267	171	0,000	140.00	340.90		3.60	100.0
UNITY. ULP. 1 000 ONT-MORE 000 100 12 11 11 100 222 42 11 10 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 257 000 11 187 258 000 11 187 11 11 11 11 11 11 11 11 11 11 11 11 11	DATA		264	196	24.1 24.2 3	140.00	101.70		3.72	96.4
NATIONAL   Name   1.50   NATS-STD   10.00   20.00   12   3   25.0   2566   655   2544   10.00   640   1.59   1.54	FAL.   ug/L   0   5.00   NYS-STD   10.00   20.00     II.T.TOTAL   ug/L   0   25.00   ONT-MOH   30.00   10.00     AL		267	29 24	18.9	0.00	210		3.68	71.4
AL	AL		266 267 267	2 2 2	2 2 2 4 1 4 6 1 4	10.00	6.40		1,16	82.1 67.9 60.7
NATABLE COMPOUNDS			267	15	5.6	10.00	6.90		1.84	32.1
1.	1									
NZOFURAN   Null   2   0.03   ONT-MOE   0.33   0.33   2   1   50.0   44   1   2.3   0.13   0.15   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3.50   3	NZOFURAN   Ng/L   2   0.03   ONT-MOE   0.33   0.33   OXYACETICACID   Ug/L   3   4.00   ONT-MOE   0.01   0.03   OAT-MOE   0.01   0.01   O.01   O.02   O.04   O.02   O.04   O.02   O.04   O.02   O.04   O.02   O.04   O.03   O.04		. 227	7	6.0	270	2.68	1.27	1.50	
NZOFURAN   Nu/L   2   0.03   ONT-MOE   0.33   0.33   2   1   50.0   44   1   2.3   0.13   0.15   3.80   3.90   3.90   3.90   3.90   3.27   3.7   3.8   3.8   3.90   3.90   3.90   3.27   3.7   3.8   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9   3.9	NZOFURAN   Ng/L   2   0.03   ONT-MOB   0.33   0.33   0.33   OXYAGETICACID   Ug/L   3   4.00   ONT-MOB   0.01   0.03   O.04   O.07   O									
OXYACETIC ACID ug/L 3 4.00 ONT-MOE 0.02 0.65 10 10 100.0 227 177 78.0 0.17 0.08 2.59 4.71 H.ORCYCLHEKANB) ug/L 2 0.06 ONT-MOE 0.01 0.03 10 9 90.0 227 157 69.2 0.02 0.02 1.71 2.48 HATE ug/L 3 0.00 ONT-MOE 0.10 0.17 10 2 20.0 227 3 1.3 0.03 0.02 2.23 1.22 1.22 ug/L 1 0.00 ONT-MOE 0.02 0.04 10 2 20.0 227 7 3.1 0.01 0.01 2.11 1.28	OXYACETIC ACID u_LL 3 4.00 ONT-MOR 0.02 0.65   H.ORCYCL HEXANB u_LL 2 0.06 ONT-MOH 0.01 0.03   HATE u_LL 3 0.00 ONT-MOH 0.02 0.04	1 50.0	1	-	57	0.13	0.15	3.80	3.90	
ug/L.         3         4,00         ONT-MOH         0.02         0.65         10         10         100,0         227         177         78.0         0.17         0.08         2.59         4.71           ug/L.         3         0.06         ONT-MOH         0.01         0.03         10         9         90.0         227         157         69.2         0.02         0.02         1.71         2.48           ug/L.         3         0.06         0.07         10         2         20.0         227         3         1.3         0.03         0.02         2.23         1.22           ug/L.         1         0.00         ONT-MOH         0.02         0.04         10         2         20.0         227         7         3.1         0.01         0.01         2.11         1.28	ug/L 3 4.00 ONT-MOH 0.02 0.65 ug/L 3 0.06 ONT-MOH 0.01 0.03 ug/L 3 0.00 ONT-MOH 0.02 0.04									
ug/L 3 0.00 ONT-MOB 0.02 0.04 10 2 20.0 227 3 13 0.03 0.02 2.23 1.22 ug/L 1 0.00 ONT-MOB 0.02 0.04 10 2 20.0 227 7 3.1 0.01 0.01 2.11 1.28	ug/L 3 0.00 ONT-MOH 0.02 0.04		227	177	78.0	0.02	0.08	2.59	4.71	100.0
			722	E L	3.1	0.03	0.02	223	1.28	17.9
	11-DICH OROFITHANH	001	224	-	13	100	101	02.1	01.1	10.7

	GLOBAL & PREV.	10.7 7.11 64.3	amazabio.	britting
	GLOBAL SPREAD FACTOR	130		
	PLANT SPREAD FACTOR	2.07 1.56 1.82		
_	GEOBAL GEO. MEAN	1.03		
nal Effluer et Welght	PLANT GEO. MEAN	126		DIMENSION .
FYPE: FI	GLOBAL % FREQ. DET.	1.8 0.9 16.5		
SAMPLING TYPE: Final Effluent SAMPLE FORM: Wet Weight	GLOBAL # DET.	* 4 £		-SAMOORANIA ,
S S	GLOBAL # SAMPLES	42.2 42.2 42.2 42.2 42.2 42.2 42.2 42.2	100-100-2	
	FLANT FREQ. DET.	0.00		
	PLANT # DET.			
	PLANT # SAMPLES	222		11-1-17
		10.00 4.10 6.70	DRINGSEN,	
n Creek)	PLANT PLANT MIN. CONC. MAX. DET. > DL CONC.	10.00 4.10 6.70	The state of	
PLANT NAME : Pickering (Duffin Creek) PLANT TYPE : Secondary	STD. REF.	NYS-STD NYS-GUL NYS-STD	B. T. Street	
ME : Picke	UNITS QC STD. FOR CODE SURFACE WATER	0.80		
X Z	Sobr			
PLANT	SHIND	1 de 1		
	CONTAMINANT NAME	OLATILES ORGANIC COMPOUNDS XI12CB 1,2-DICHLOROETHANB XICDCB CIS-1,2-DICHLOROETHYLENB XICHLO CHLOROPORM		
	XONTAM.	OLATELE XICHOG XICHIO		

Converted background   Converted background	CONT	CONTAM: CONTAMINANT NAME.	UNITSQ/ (DRY CO WEIGHT)	SQA/QA CODE IT)	UNITSQA/QC PLANT (DRY CODE MIN. CONC. VEIGIT) > DL	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT S PREQ. DET.	GLOBAL # SAMPLES	GLOBAL.	GLOBAL.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
CHRMICAL ONY VIEW DEALAND   THE ALL CONTINUES DEALAND	CON	ENTIONALS															
ALMENTALTOTAL.  MAPE O 13577-40 14209-99 2 2 1000 45 40 1849 6539 98374 106 245 100	COD NNITH NNTKI PH PHUT PRUT RST RST NNOTH			00000000	1.7.1 9.9.2 9.8.4 9.00 9.00	6465.36 38987.37 581 109.59 34902.31 58400.00 36900.00	888888888888888888888888888888888888888	~~~~~~	100.0 100.0 100.0 100.0 100.0 100.0 50.0	\$ 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	\$ 5 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	_	227637.01 6313.08 34665.13 573 78.92 34902.31 57340.39 34362.77	892221.45 5911.32 3697.85 6.03 82.34 20347.70 32783.51 20803.05	1.09 1.103 1.118 1.02 1.39 0.00 1.03 1.11	3.19 2.38 2.19 1.10 3.54 4.43 1.77 2.21	100.0 100.0 100.0 100.0 85.3 100.0 100.0
SILVERESTREELT TOTAL.  ALCHINGIN MUNICAL TOTAL.  MINARA 0 0536 6750 2 2 1000 51 51 51 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251 100 251	META	87															
W.CRESOL         ug/kg         1         232682.10         522260.30         2         2         100.0         51         42         82.3         348598.10         116647.30         1.77         12.16           AND FURANS           AND FURANS           TETRACHI (ORODIBIENZORURAN         ug/kg         1         5.20         5.20         2         1         50.0         50         3         6.0         2.20         2.40         3.46         2.94           HEFTACHI (ORODIBIENZORURAN         ug/kg         1         5.30         2         1         50.0         50         6         12.0         9.70         7.20         2.36         4.12           OCTACHI (ORODIBENZORURAN         ug/kg         1         16.40         2         1         50.0         50         6         12.0         9.70         7.20         2.36         4.12           OCTACHI (ORODIBENZORURAN)         ug/kg         1         16.40         2         1         50.0         50         6         12.0         9.70         7.20         2.36         4.12           DES,HERRICIDES,NYBS         50.0         17.10         8         50.0         17.10         8         5.00         17.10	AGUT ASUT CRUTT CRUTT CRUTT HIGUT NIGUT PBUT SHUT SHUT SHUT SHUT SHUT SHUT SHUT	SH, VER, UNPETTOTAL ALJMINING UNSELETOTAL ARSENIC, UNPETTOTAL CADMILM, UNPETTOTAL CIRCOMILM, UNPETTOTAL CONPER, UNPETTOTAL NICKEL, UNPETTOTAL NICKEL, UNPETTOTAL SELENICHIETTOTAL SELENICHIETTOTAL SELENICHIETTOTAL STRONTILM, UNPETTOTAL ZINC, UNPETTOTAL MOLY BEDENUM, UNPETTOTAL MOLY BEDENUM, UNPETTOTAL			63.36 63.46 63.4 11.55 11.55 10.44.5.2 0.51 19.38 497.34 17.62 1101.24 9.06	67.50 14209.59 8.53 27.40 1149.01 1044.52 2.13 2.26 6.50.68 2.26 1352.74 9.06	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	nnnn-nnnnn-	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	3 2 2 5 6 6 5 6 2 5 2 2 5	23 1 2 4 8 8 4 5 2 2 2 3 3 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	88.9 100.0 98.0 99.0 100.0 100.0 100.0 100.0 100.0 100.0	65.39 7.35 7.35 147.79 147.86 1044.52 105 208.55 268.87 1.85 1.85 1.85 1.85 1.85 1.85 1.85 1.85	30.17 9835.74 6.13 9.74 30.143 606.31 2.23 5.23 9.17 173.99 3.04 231.70 905.39	1.08 1.09 1.29 1.00 0.00 2.74 2.74 1.10 1.11 1.17 1.16 1.16	2.61 2.91 2.01 3.08 3.08 1.72 1.72 1.93 1.93 2.38	94.4 100.0 97.1 97.1 100.0 100.0 93.9 93.9 100.0 100.0
SAND FURANS  TETRACHI ORODIBENZORURAN  Ug/rg 2 5.20 5.20 5.0 50.0 50 3 6.0 2.20 2.40 3.46 2.94  HEPTRACHI ORODIBENZORIOXIN  Ug/rg 1 5.30 5.0 5.0 5.0 5.0 7.20 2.40 3.46 2.94  HEPTRACHI ORODIBENZORIOXIN  Ug/rg 1 16.40 16.40 2 1 50.0 50 6 11.20 9.70 7.20 2.36 4.12  OCTACHI ORODIBENZORIOXIN  Ug/rg 1 16.40 16.40 2 1 50.0 50 25 50.0 17.10 8.50 1.06 3.60	BASE	NEUTRAL AND ACID EXTRACTABLE COM. UE M-CRESOL	POUNDS	p44	10	\$22260.30		8	100.0	15	42	82.3	348598.10	116847.30	1.7	12.16	85.3
TETRACHLORODIHENZORURAN	DIOXI	NS AND FLIRANS															
PESTICIDES,HERBICIDES,M'88	P94CD P97CD P98CD		ughe ughe		5.20 5.30 16.40	5.20 5.30 16.40	000	pro and pro	50.0 50.0 50.0	\$ \$0	3 25	6.0 12.0 \$0.0	2.20 9.70 17.10	240 720 8.50	3.46 2.36 1.06	2.94 4.12 3.60	8.8 17.7 58.8
	PEST	CIDES,HERRICIDES,PCBS															
				1			1			;							

SAMPLING TYPE: Raw Studge SAMPLE FORM: Dry Weight

PLANT NAME: Pickering (Duffin Creek)
PLANT TYPE: Secondary

PLANT NAME: Pickering (Duffin Creek)
PLANT TYPE: Secondary

SAMPLING TYPE: Raw Studge SAMPLE FORM: Dry Weight

CONTAM.	CONTAM. CONTAMINANT NAME INANT	UNITSQA(QC FLANT FLANT (DRY CODE MIN. CONC. MAX. DET. WEIGHT) > DL CONC.	PLANT MIN. CONC.	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.	
P. IPPDD V. II SEG	PIPPOD PP-DDD PS-IDDD PS-ILVEX	ug/kg 1 ug/kg 3	19.50	19.50	7.7		50.0	25.25	23	25.5	5.80	\$.10 47.30	5.61	3.40	35.3 55.9	
VOLATIL	VOLATILES ORGANIC COMPOUNDS															
XICHEO	XICHLO CHLOROPORM (CHCL3)	ug/kg 1	ug/kg 1 23972.60	23972.60	7		90.0	25	12	23.5	2918.10	1225.10	19.68	4.24	35.3	

	PLANT NAME PLANT TYPE	ME: P	: Pickering (Duffin Creek)	fin Creek)					SAMPL	SAMPLING TYPE SAMPLE FORM	** **	Treated Sludge Dry Weight				
CONTAM-	CONTAMINANT NAME	UNITISQA/ (DRV COI WEIGHT)	UNFFSQA/QC PLANT (DRY CODE MIN. CONC. EIGHT) > DL	PLANT MAX. DET. CONC.	FLANT # SAMFLES	PLANT BET.	PLANT % FREQ. DET.	GLOBAL.	GLOBAL # DET	GLOBAL * FREQ. DET.	GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD PACTOR	GLOBAL & PREV.	
CONVENTIONALS	ONALS															
NNTKUR PII PIIIOI. PPUT RST	NTROCHH CONCN) (-LOCKHH CONCN) PHENOLICS (4AAP) PHOSPHORUS, UNFILL TOTAL RESILXE, TOTAL RESILXE, TOTAL RESILVE, TOTAL		33299.99 7.00 18.41 34230.00 295000.00 127440.00	38000.01 7.60 30.85 41320.00 188856.00	<b>000000</b>	0 0 0 0 0 0 0	100.0 100.0 100.0 100.0 100.0	\$ 5 \$ \$ \$ 8 8 8 8 8 8 9 8 9 8 9 9 9 9 9 9 9 9 9 9	20 27 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	100.0 100.0 83.7 100.0 100.0	35572.46 7.29 23.83 37606.29 302211.85 155138.03	38494.12 7.17 43.05 76638.67 80434.04 43379.33	1.10 1.10 1.14 1.13 1.32	1.77 1.09 3.14 6.91 3.23 3.19	100.0 100.0 100.0 100.0 100.0	
METALS																
AGUT AALIT AALIT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT COULT C	SILVER, INFILT TOTAL A LAMBUNA, UNFILT TOTAL A LAMBUNA, UNFILT TOTAL CADMILM, UNFILT TOTAL CORPAT, TUNFILT TOTAL CORPAT, TUNFILT TOTAL CORPUBL, UNFILT TOTAL MIRECURY LUNFILT TOTAL MIRECURY LUNFILT TOTAL MIRECURY LUNFILT TOTAL SELENDIM, UNFILT TOTAL SELENDIM, UNFILT TOTAL SELENDIM, UNFILT TOTAL SELENDIM, UNFILT TOTAL ZINC, UNFILT TOTAL ZINC, UNFILT TOTAL		32.58 0782.95 1.36 6.46 3.05 094.92 581.40 1.90 94.58 271.19 0.10 91.02	38.76 7288.14 1.94 7.80 4.85 791.34 581.40 3.2.43 132.43 10.68 0.68 0.68	00000-000000	000000-000000	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	5 S S S S S S S S S S S S S S S S S S S	100.0 100.0 98.0 91.1 100.0 100.0 98.0 98.0 98.0 100.0	35.53 7031.00 1.62 7.10 3.84 741.56 581.40 2.48 111.91 2.88.47 0.26 105.69 580.53	37.78 10715.94 340 10.47 9.14 333.06 732.24 3.24 3.24 3.24 3.24 3.24 3.24 3.24	113 1139 1144 1119 1110 1120 1120 1120 1120	2.33 2.87 2.80 2.06 2.75 2.16 2.16 2.20 2.98 2.98 2.98 2.98 2.98 2.98 2.98 2.98	100.0 100.0 97.1 90.3 85.7 100.0 100.0 97.1 97.1 100.0	
ESTICIDE	PESTICIDES,HERBICIDES,PCBS															
PLBHCB PLGHLA PLGHLA PLDHLG PLHET PLHET PLBHCG PLBHCG PLBHCG PLHENS PLHENS PLHENS PLHENS PLHENS PLHENS PLHENS PLHENS PLHENS PLHENS	RETA-BIC (HEXCHLORCYCLIEXANE) ALPIACHLORDANE GAMMA-CHLORDANE DIELDRIN METHOXYCHLOR METHOXYCH OR HEPTACHLOR GAMMA-BICCHEXCH ORCYCLIEXANE) ENDOSCHLAN SULPHATE HEPTACHLOR PP-DDE RENDSCHLAN SULPHATE HEPTACHLOROBENZENE PP-DDD 1,24-TRICHLOROBENZENE		17.50 8.70 8.70 9.10 57.30 6.80 115.50 114.70 115.60 15.00 15.00 15.00	22.20 11.10 15.50 12.00 107.40 10.60 32.90 13.60 13.80 13.80	~~~~~~~~~~~	0000000	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 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3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3	47.1 55.9 38.2 38.2 38.2 38.2 23.5 17.3 17.3 17.3 17.3 17.3 17.3 17.3 17.3	
VOLATILE BZOXYI. XICHLO	VOLATHES ORGANIC COMPOUNDS 320XYL O-XYLENE (CMHO) CLOHLO CHLOROPORM (CHCL3)	ug/kg 1	2M4.70 3876.00	284.70	2.2		50.0	50 50	12 1	28.0	135.60	523.50 441.70	2.85 17.48	4.05	32.4	

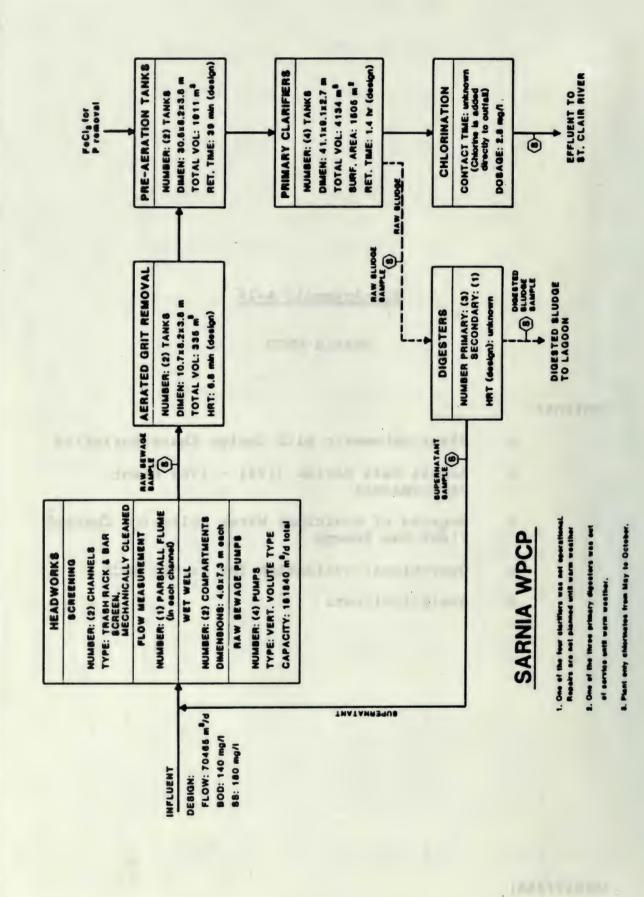
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# Sub-Appendix A-24

# Sarnia WPCP

# Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Sarnia WPCP
- o Analytical Data



SARNIA WPCP Primary Phosphorus Removal - Continuous Capacity - 65.917 18(3)m3/day

PARAMETER	1981	1982	1983	1984	1985	MEAN ANNUAL AVERAGE
Avg. Daily Flow (1988 m3/day)	47.77	1 1 47.73.	52.32	55.20	54.41	51.49
BOD5 - Influent (mg/L) BOD5 - Effluent (mg/L) Annual BOD5 Significantly Different from Mean	78.88 41.88	93.88	125.88	117.18 44.78	119.98 42.55	187.76 41.53
Annual Average BOD5?	1.0.	I.D.	I.D.	1.0.	I.D.	
TSS - Influent (mg/L) TSS - Effluent (mg/L) Annual TSS Significantly	142.88	158.88 21.88	1 147.88 1 18.89	161.58 18.75	198.80 24.92	156.42 20.53
Different from Mean Annual Average TSS?	1.0.	i I.D.	i I.D.	1.0.	i I.D.	
Total P - Influent (mg/L) Total P - Effluent (mg/L) Annual TP Significantly Different from Mean	5.37	6.27	5.79 5.88	5.34 B.78	5.05 0.82	5.57
Annual Average TP? TP in Compliance?	I.D.	I.D.	1.D.	I.D.	I.D.	Y

I.D. - Insufficient Data

# SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

# GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE	SARNIA WPCP 120000907 PRIMARY PHOSPHORUS REMOVAL CONTINUOUS
DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	65.917 57.880 64475
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	7
COMMERCIAL SOURCES (%) (Population x 0.0757)	
RESIDENTIAL SOURCES (%) (Population x 0.175)	19
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from	N 65
industrial, commercial and residential sources)	
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	123 <sup>-</sup> 9 31

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	SIC	# OF COMPANIES
INORGANIC CHEMICALS MFG	2810-281	8 2
PLASTICS, RESINS & SYNTHETIC FIBER		
STONE, CLAY AND MINERAL PRODUCTS	3200-329	9 2
CARBON BLACK	2895-289	5 3
PESTICIDES FORMULATION	2879-287	9 1

# OPERATIONAL EVALUATION FOR: SARNIA NPCP

TREATMENT FACILITY: Primary

PERIOD ENDING: Feb. 6, 1987

SAMPLING SEASON: Winter (Cold Meather)

DESIGN AVG FLOW: 70,465 m3/d

			PRE-SAM	PLING PERI	OD		
PARAMETER	DAY 1 :	DAY 2 1	DAY 3 1			DAY 6 :	DAY 7
RAN SEWAGE FLOW	49,472	49,057	48,698	49,435	49,046	48,621	48,690
1 of Design Flow	70.212	69.622	69.112	70.162	69.602	69.002	69.107
Influent BOD (mg/L) Primary BOD (mg/L)		185.0		1			
Secondary BOD (eg/L) 1 PRIMARY REMOVAL		78.0 :	2 2 0	1 1	2 2 2	1	
I SECONDARY REMOVAL	1	57.8 1	1	1	1	1	
Influent SS (mg/L) Primary SS (mg/L)	118.0	203.0	129.0	186.0	138.0	186.0	172.0
Secondary SS (mg/L) Z PRIMARY REMOVAL	25.0 :	49.0	16.0	12.0	45.0	43.0 :	19.0
I SECONDARY REMOVAL	78.8 :	75.9 1	87.6	93.5 :	67.4	76.9	89.0
Influent NH4 (mg/L) Primary NH4 (mg/L)	1	1			37.0	!	
Secondary NH4 (ag/L) Z PRIMARY REMOVAL	8 8	1		8 2	38.0	1	
I SECONDARY REMOVAL	1	1	1	1	-2.7		
Influent TKN (mg/L)	1		·; ·	;- 			
Primary TKN (mg/L)				1		1	
Secondary TKN (mg/L) Z PRIMARY REMOVAL	i	i	i	i	i	i	
I SECONDARY REMOVAL					1	1	
Influent Total P (ag/L)	5.40	4.80	6.20	8.10	6.80	8.60	8.20
Primary Total P (mg/L) Secondary Total P (mg/L) % PRIMARY REMOVAL	0.93	0.75	0.60	0.68	1.40	1.58	1.10
I SECONDARY REMOVAL	82.8	84.4	90.3	91.6	79.4	81.6	86.6

# SARNIA WPCP

TREATMENT FACILITY: Primary

PERIOD ENDING: Feb. 6, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 70,465 m3/d

11	111111111111111111111111111111111111111			**************************************	MPLING PER	100		;
11				FRE-DH	INFLING FER			·
11	PARAMETER	1 DAY 8 1	DAY 9	DAY 10 1	DAY 11 :	DAY 12	DAY 13 ;	DAY 14 1
								========
11	RAW SEWAGE FLOW	50,946	48,424	48,518 :	49,971	50,646	49,766	52,194 :
11	WHA DEMINE LEAM	1 30,770 1	101121 1	10,010 1	77,771	30,970	! 47 <sub>1</sub> /00 1	J2,174 i
11	% of Design Flow	72.30%	68.72%	68.85%	70.921	71.87%	. 70.6321	
.11	11	1 1		1	;			1
11-		-{						
11	Influent BOD (mg/L)	1	132.0	:	213.0 :			- 1
11	Primary BOD (mg/L)			1	1			- :
11	Secondary BOD (ag/L)	1	57.0	;	109.0 1			1
11	I PRIMARY REMOVAL I SECONDARY REMOVAL	i i	E1 0 1	i	40.01			1
11-	% SECONDHAT REMOVAL	!!	56.8	1	48.8		i !!	!
11	Influent SS (mg/L)	66.0 ;	200.0	182.0	254.0 1	142.0	135.0	182.0 1
11	Primary SS (mg/L)	1	1	1	- 1			1
1 1	Secondary SS (mg/L)	1 22.0 1	44.0 1	35.0 :	22.0 1	- 66.0	27.0 :	31.0 1
11	I PRIMARY REMOVAL	1		1	1		1	- 1
11	2 SECONDARY REMOVAL	66.7 1	78.0 1	80.8	91.3 :	53.5	80.0 1	83.0 1
11-	* ** * ********************************							
11	Influent NH4 (mg/L)	33.0 !	i	;	i .			1
11	Primary NH4 (mg/L) Secondary NH4 (mg/L)	32.0 ;	i	i	i			1
11	% PRIMARY REMOVAL	1 32.0 1	i	i	i		i	1
11	% SECONDARY REMOVAL	3.0 ;			. !			- ;
11-								
11	Influent TKN (mg/L)	1 1	- 1	1	1			1
11	Primary TKN (mg/L)	1	+	1	;			11
11	Secondary TKN (mg/L)	1	1	:	1		1	1 1
11	Z PRIMARY REMOVAL	1 1	;	1	;		1	11
11	% SECONDARY REMOVAL	1	;	1	:		;	2 1
11-	7-171 7-2 1 8 1 -02			7.00	7 44			
11	Influent Total P (mg/L)	5.70 :	5.60 :	3.80 ;	7.40 1	7.00	6.40	6.60 !!
11	Primary Total P (mg/L) Secondary Total P (mg/L)	0.15	0.70 :	0.45 :	0.75 ;	0.93	0.85	1.43 11
11	% PRIMARY REMOVAL	1 0.13	0.70 1	0.43 i	0.73 1	V.75	V.83 i	1.45 ii
11	Z SECONDARY REMOVAL	97.4	87.5 :	88.2	89.9 :	86.7	86.7 1	78.3 11
===				***********		=========		/010 11

# SARNIA WPCP

TREATMENT FACILITY: Primary

PERIOD ENDING: Feb. 6, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AV6 FLOW: 70,465 m3/d

di l			SAMP	LING PERIO	D	
	DAY 15 :					
RAN SEWAGE FLOW	54,152	54,667	52,835	51,328		9 9 9
% of Design Flow	76.851					2 2 2
Influent BOD (mg/L)		 			138.0	 
Primary BOD (mg/L) Secondary BOD (mg/L) T PRIMARY REMOVAL		5 5 8 8		1	62.0	8 8
Z SECONDARY REMOVAL		1			55.1	1
Influent SS (mg/L) Primary SS (mg/L)	248.0	190.0	260.0	191.0	175.0	3 3
Secondary SS (mg/L) I PRIMARY REMOVAL	20.0	30.0	26.0	34.0	30.0	3 1
Z SECONDARY REMOVAL	91.9	84.2	90.0	82.2	82.9	 !
Influent NH4 (mg/L) Primary NH4 (mg/L)		1	42.0			8
Secondary NH4 (mg/L) 2 PRIMARY REMOVAL		3 3	32.2			2 1 2
I SECONDARY REMOVAL	!		23.3	!		 !
Influent TKN (mg/L) Primary TKN (mg/L)		- 1				!
Secondary TKN (mg/L)	:	;	1			;
: % PRIMARY REMOVAL	1	1	1			1
I SECONDARY REMOVAL	!!	!	!	!		 !
Influent Total P (mg/L) Primary Total P (mg/L)		6.30	8.20	4.60	4.80	1
Secondary Total P (mg/L)  2 PRIMARY REMOVAL		0.85	1.35	0.55	0.90	3 1 2
: Z SECONDARY REHOVAL	!!!	86.5	83.5	88.0 ;	81.3	!

PLANT NAME: Sarnia PLANT TYPE: Primary

SAMPLING TYPE: Raw Sewage

	GLOBAL & PREV.		100.0 100.0 100.0 100.0 100.0	0.001	97.3 97.1 81.4 100.0 100.0 75.7 100.0 100.0 100.0 89.8 89.8	100.0
	GLOBAL SPREAD FACTOR		193 181 181 169 105	193	265 228 228 186 214 224 225 220 231 231 1.72	3.72
	PLANT SPREAD PACTOR		1.24 1.12 1.13 1.13 1.13	3	1.60 0.00 1.22 1.13 1.78 1.78 1.78 1.96	521 515 163
elght	GLOBAL GEO. MEAN		287.75 22.39 15.37 25.44 6.90 5.18	1.00.88	1000.10 110.60 59.50 370.70 211.00 10.40 0.23 6.50 8.10 12.40	0.06 0.13 0.06
: Wet Welght	PLANT GEO. MEAN		85.15 226.71 15.78 18.98 26.71 6.93 6.11	95.651	1300.00 1110.00 11110.00 200.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00	0.07
FORM	GLOBAL % FREQ. DET.		98.5 100.0 100.0 100.0 100.0	8	95.0 17.7 17.7 17.7 17.6 17.5 17.5 17.5 17.5 17.5 17.5 17.5 17.5	15.2 77.5 8.0
SAMPLE FORM	GLOBAL # DET		266 258 271 274 273 248		306 48 57 318 315 274 76 82 237 41	22 42
	GLOBAL #		267 271 273 273 248		332 332 313 322 332 332 332 332 332 332	276 276 276
	PLANT & FREQ. DET.		) 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0		100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	80.0
	PLANT # DET.		**************************************		@@@@NN4mmn	<b>*</b> €
	PLANT # SAMPLES		******		o	n n n
	PLANT MAX. DET. CONC.		175.00 356.00 19.80 23.10 32.30 7.23 11.40	75	2600.00 1110.00 1400.00 240.00 8600.00 70.00 80.00 50.00 30.00	3.30 0.92 0.15
Ċ.	QC PLANT CODE MIN. CONG. N > 4DL		53.70 158.00 11.00 17.40 22.30 6.65 4.48		820.00 110.00 180.00 180.00 0.20 0.20 10.00 20.00 20.00 20.00 20.00 20.00	0.16
: Prima	UNITS QC CODE M		0000000		000000000	4ee
YPE	N C				3333333333	333
PLANT TYPE : Primary	CONTAMINANT NAME	ONALS	BOD 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL FILT REAC. NITROGEN-TOT-KIEL, UNF.TOT HOSPHORUS, UNFL.T. TOTAL RESIDUR, PARTICULATE		ALJMINUM, UNFILT.TOTAL. COPPER, UNFILT.TOTAL. ILPAD, UNFILT.TOTAL. STRONTIUM, UNFILT.TOTAL. ZINC, UNFILT.TOTAL. ZINC, UNFILT.TOTAL. GABMUM, UNFILT.TOTAL. COBALT, UNFILT.TOTAL. CREMIUM, UNFILT.TOTAL.	PERTICIDES, HERBICIDES, PCBS PIPCET PCB, TOTAL 24-DIGGLOROPHENOXYAGETIC ACID 245-TRIGJORPHENOXYAGETIC ACID
	CONTAM- INANT	CONVENTIONALS	BODS COD DOC NNHTPR NNTKUR PH PPUT RSP	METALS	ALUT CUUT SRUT SRUT SAUT HGUT COUT COUT COUT COUT	PESTICIDE PIPCBT P324D P324ST

	BAL KEV.		000000000000000000000000000000000000000	0000		100.0 100.0 100.0 100.0 11.4 100.0 85.7 85.7		14.3		28.6 85.7 85.7 42.9		85.7 85.7 14.3 85.7 28.6
	L GLOBAL D % PREV.		205			1885 33.45 11.94 11.58 12.83		2.20		3.06 4.96 2.28 2.61		3.05 5.84 1.36 5.17
	GLOBAL SPREAD FACTOR		22222			266424224		4		w 4 4 4		m 3 - m 3 c
	PLANT SPREAD FACTOR		22,178,000	122		0000 132 156 240 129 4.16 1.90 1.90		000		2.30 3.54 2.69 1.58		229 2213 2213 2213
	GLOBAL GEO. MEAN		48.40 108.54 12.80 10.46 15.36	134		18.20 69.80 550.00 0.05 20.80 304.50 6.50 10.80 8.70		60.0		0.03		1.94 4.39 1.83 1.83 2.34
: Final Effluen : Wet Weight	PLANT GEO. MEAN		19.80 86.01 10.93 18.97 22.34	22.33		20.00 880.00 200.00 0.10 90.00 10.00 10.00		0.10		0.04		3.69 6.55 2.82 1.55 1.55
TYPE : FIR	GLOBAL S. FREQ. DET.		10000	100.0		87.5 100.0 95.8 97.4 18.8 97.9 22.9 60.4		12.5		17.5 67.5 72.5 17.5		26.3 26.3 26.3 26.3 26.3 26.3
SAMPLING TYPE : Final Effluent SAMPLE FORM : Wet Weight	GLOBAL F DET.		99999	3 2 2		28 4 8 8 6 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		-		7 29 29		21 21 10 10
SAN	GLOBAL # SAMPLES		99999	# # # # # # # # # # # # # # # # # # #		* * * * * * * * * * * * * * * * * * *		•		9999		88 88 88 88
	PLANT S. FREQ. DET.		0.000	100.0		100.0 100.0 83.3 83.3 83.3 16.7 16.7		100.0		100.0 80.0 60.0 20.0		100.0 100.0 33.3 33.3
	PLANT # DET.		<b>અ</b> અ અ અ અ	n w w		- 9 20 20 20 20		-		N 4 N		
	PLANT # SAMPLES		****	n e n				-		N N N N		
			26.00 126.00 13.30 21.60 24.10	25.50		20.00 1300.00 410.00 0.10 140.00 180.00 10.00 10.00		0.10		0.45 0.22 0.04 0.07		5.60 12.00 10.00 3.70 2.20
	PLANT PLANT MIN. CONC. MAX. DET. > DL CONC.		15.20 56.00 8.80 17.60 20.30 6.85	1930		20.00 670.00 120.00 70.00 150.00 10.00 10.00		010		0.05		280 4.10 10.00 3.70 2.20
						ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE		ONT-MOE		ONT-MOE ONT-MOE ONT-MOE		ONT-MOB NYS-GUL NYS-GUL NYS-GUL NYS-STD
PLANT NAME : Sarnla PLANT TYPE : Primary	QC STD. FOR STD. REF. CODE SURFACE WATER					5.00 30.00 75.00 25.00 3750.00 5.00 100.00 25.00		0.03		0.00		100.00 0.70 50.00 50.00 0.20
NAN	0.0		00000	000		00000000		2		~~~		
LANT	UNITS QC		22222	n Land		22222222		Page 1		3333		333333
	CONTAMINANT NAME	ONALS	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL FILT REAC. NITROGEN-TOT-KJEL, UNF-TOT	PROSHINGUS, UNIT. TOTAL RESIDUR, PARTICULATB		COPPER, UNPELT. TOTAL ZINC, UNPELT. TOTAL ZINC, UNPELT. TOTAL ALJ, MINELT. TOTAL LEAD, UNPELT. TOTAL STRONTIUM, UNPELT. TOTAL COBALT, UNPELT. TOTAL CROMILI, UNPELT. TOTAL ICROMIUM, UNPELT. TOTAL NICKEL, UNPELT. TOTAL	DIOXINS AND FURANS	TETRACHLORODIBENZOPURAN	PESTICIDES, HERBICIDES, PCBS	PCB, TOTAL. 2,4-DICHLOROPHENOXYACETIC ACID CAMMA-BHC(HEXCHLORCYCLJHEXANE) 2,4.5-TRICLORPHENOXYACETIC ACID	VOLATILES ORGANIC COMPOUNDS	O.XYLENE TETRACIA.OROETHYLENE 1-OCTENE 1-A.ND P.XYLENES 1,1,1-TRICIA.OROETHANE GALOROPORM
	CONTAM.	CONVENTIONALS	BODS COD DOC NNIFTPR NNTKUR	RSP	METALS	CCUT ZNUT ALUT HGUT PBUT SRUT COUT CRUT NIUT	DIOXINS A	P94CDP	PESTICIDE	PIPCBT P324D P1BHCG P3245T	VOLATILES	B2OXYL XITETR BIOCTE B2MPXY XIIIIT

PLANT NAME: Sarnia PLANT TYFE: Primary

	ight
SAMPLING TYPE: Recycle	SAMPLE FORM : Wet Welgi

GLOBAL % PREV.

GLOBAL SPREAD FACTOR

PLANT SPREAD FACTOR

GLOBAL GEO. MEAN

FLANT GEO. MEAN

GLOBAL % FREQ. DET.

PLANT GLOBAL GLOBAL

% FREQ. # #

DET. SAMPLES DET

PLANT # DET.

UNITS QC PLANT PLANT PLANT
CODEMIN.CONC. MAX. DET. #
> DL CONC. SAMPLES

CONTAM: CONTAMINANT NAME INANT

	100.0	10000	100.0		100.0	100.0	100.0	0.001	100.0	55.6	22.2 66.7 88.9		====		33.3		77.8
	4.55	3.13 2.66 1.95 1.05	3.60		4.09	6.63	4.19	1.78 6.62 2.13	7.41	352	1.65 5.19 3.08		2.54 2.60 2.60 5.65		8.08		3.46
	153	10.00	ម្ម		1.83	1.16	E 55	223	120	2.58	2.52		1.04 1.04 1.77		000		1.29
	3439.26 77.62 146.20	324.28 6.94	53.83 2242.77		72.30	58.40 58.40 874.70	1814.00	429.50	3112.40	23.50	5.90 4.00 308.60		80.62 82.69 199.01 562.69		1.87		0.06
	124.57	0.21 1.11 872.93 6.98	838.74		1460.00	1160.00	3419990.00	93190.00	330.00	190.00	20.00 0.00 1180.00		247.49 355.98 516.14 208.87		30.00		22.68
	100.0	88.6 100.0 100.0	100.0		100.0	96.2			100.0 52.9	39.6	39.5		7.0 7.0 2.3 62.8		9.1		61.4
	844	8844	43		53 42	\$ E S S	282	4 % S	27.5	ឧឧ	17 14 11 2		. 3 3 27 1 27 1 27 1				27 9
	854	3434	£ 5		883	* & & :	2 8 2	<b>នេ</b> ន	នភេទ	2 2	ឌ៩ឌ		2222		==		11
	100.0	0.001	100.0		100.0	100.0	100.0	100.0	80.0 80.0	80.0	25.0 25.0 25.0		100.0 100.0 33.3 33.3		100.0		100.0
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	444		n 4		444	१ च च १	74 v	**	ক মান	N 4	444						44
	178.00	1.15 975.00 7.03	28700.00		250000.00	1390.00	4730000.00 4730000.00	107000.00	368000.00	150.00	20.00 10.00 \$70.00		258.00 363.80 2200.00 405.00		30.00		29.00
	12430.00 88.20 340.00	825.00 6.94	17800.00		800.00 172280.00	970.00	2519400.00	82000.00	220000.00 270.00 16.00	100.00	20.00 10.00 570.00		237.60 341.60 2200.00 405.00		30.00		16.00
	0000		00		000		000		000		000				~ -		7 -
					223	355		33	<b>\$</b> \$\$	22		MPOUNDS	2222		75		22
	CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM; TOTAL FILT REAC.	NITRATES, TOTAL FILT.REAC. NITROGEN-TOT-KIEL, UNP.TOT (LOG(H+(CONCN))	RESIDUE, PARTICULATE		SILVER, UNFILT. TOTAL ALUMINUM, UNFILT. TOTAL CALCITIM INERT T. TOTAL	CADMIUM, UNFILT: TOTAL CORROBILIM, UNFILT: TOTAL CORROB I NET TOTAL	RON, UNFILL FOTAL  RON, UNFILT TOTAL  MAGNESIUM UNFILT TOTAL	LEAD, UNITI, T. TOTAL STRONTIUM, UNFIL, T. TOTAL	ZINC,UNFILT.TOTAL ARSENIC,UNFILT.TOTAL MERCURY,UNFILT.TOTAL	SELENIUM, UNFILT TOTAL COBALT, UNFILT, TOTAL.	BERTLLUM, UNFILT, TOTAL CYANIDE-IFRE, UNFILT, REAC. NICKEL, UNFILT, TOTAL	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	FLUORANTHENE PHENANTHRENE AMETRYNE M-CRESOL	INS	TETRACILORODIBENZOFURAN OCTACHLORODIBENZODIOXIN	PESTICIDES, HERBICIDES, PCBS	PCB, TOTAL, ALDRIN
FIONALS	CHEMI	NITRA NITRO (-LOG()	RESIDI		SILVER	CADM	IRON,C MAGN	STRON	ARSEN MERCI	COBAL	CYANI	JTRAL AN	PLUORANTH PHENANTHE AMETRYNE M-CRESOL	DIOXINS AND FURANS	TETRA	ES, HERBI	PCB, TOTAL ALDRIN
CONVENTIONALS	COD DOC NNIHTPR	NNOTFR NNTKUR PH	RSP	METALS	AGUT	5000	FEUT	PBUT	ASUT	SEUT	CCNFUR	BASENE	PNFLAN PNFLEN PZAMET PMMCRE	DIOXINS	P94CDF P98CDD	PESTICID	PIPCBT

410

Sarnia	Primary
NAME	TYPE
LANT	LANT

SAMPLING TYPE: Recycle SAMPLE FORM: Wet Weight

CONTAM.	CONTAMINANT NAME	LINITS OC	00			PLANT			1000	140010		100				-
INANT			26	_	CONC. 8	SAMPLES	DET.	DET. S	AMPLES	DET	PREQ.	GEO. MEAN	GEO. MEAN	SPREAD	SPREAD	SLOBAL B PREV.
													-			
PESTICID	PESTICIDES, HERBICIDES, PCBS															
PIPPOR	PP-DDR	ueA.	-	0.40	1.10	4	3	75.0	2	17	38.6	0.42	0.07	2.83	3.50	7 23
P3245T	2,4,5-TRICLORPHENOXYACETIC ACID	u.S.	•	0.34	1.10	4	3	75.0	4	18	40.9	0.65	0.43	1.75	4 50	77.8
P3SILV	SILVEX	No.	3	0.36	1.20	4	3	75.0	1	15	34.1	0.70	0.38	1.81	5.08	6.50
X2HCB	HEXACHLOROBENZENE	No.	2	2.10	3.20	4	3	75.0	4	12	27.3	1.17	0.07	5.21	4.31	3,5
PIGHTA	ALPHA-CHLORDANE	75"	_	0.30	040	4	3	90.0	4	11	25.0	0.19	90.0	207	2.96	25.6
PIOCHI,	OXYCHLORDANE	"EAL	2	0.30	0.30	4	2	90.0	4	4	9.1	0.17	0.05	1.89	2.96	200
P324D	2,4-DICHLOROPHENOXYACETIC ACID	201	•	8.33	13.00	4		50.0	2	29	6.59	1.44	0.79	9.86	5.21	0 20
X2124	1,2,4-TRICHLOROBENZENE	" P	m	09.0	080	4	2	90.0	4	15	34.1	0.26	0.11	3.08	417	777
PIBLICE	BETA-BIHC (HEXCHI.ORCYCLHEXANE)	ne.	-	0.30	0.30	4	-	25.0	4	10	1.22	0.13	0.08	1.73	284	55.6
STORE OF THE PARTY	DAMMA-CHLORDANE	בר ה		0.30	0.30	4	pma ,	25.0	4	11	25.0	0.13	90:0	1.73	2.70	4.44
Piblica	MULTINION OF THE PARTY OF THE P	2	7	0.50	0.50	4	_	25.0	2	1	15.9	0.15	90.0	224	281	55.6
PIDMIDI	MELHOX YCHLOR	neg.	- •	2.00	2.00	₹ .	_	25.0	2	7	15.9	0.71	0.32	200	2.82	444
PIENDI	FNIXOSULTAN	ne.	m i	090	090	4	_	25.0	7	•	8.9	0.16	90.0	2.45	3.33	33.3
PIENDK	FNDKIN	u.gr.	3	0.30	0.30	*	-	25.0	4	en	6.8	0.13	90.0	1.73	133	32.3
PIHEPE	HEPTACHLOREPOXIDB	ue.	7	0.20	0.20	4	-	25.0	7	3	8.9	0.12	900	141	111	11.1
PIMIKX	MIRLEX	ne.	_	0.40	0.40	*	-	25.0	4	3	8.9	0.14	0.05	2.00	300	23
PIPPDD	DOD-94	ne.	_	0.20	0.20	*	-	25.0	4	01	7.77	0.12	0.05	141	2.86	1687

PLANT NAME: Sarnia PLANT TYPE: Primary

SAMPLING TYPE: Raw Studge SAMPLE FORM: Dry Weight

COD CHRIST-LOCAL CYCUS DEBAND.  COD CHRIST-LOCAL CYCUS DEBAND.	RESIDENCIAL STATES   PROPERTY   PROPETTY	CONTAM. INANT	CONTAMINANT NAME	UNITSQA/ (DRY COI WEIGITT)	UNITSQA/QC PLANT (DRY CODE MIN, CONC.) VEIGHT) > DL	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT S FREQ.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL, F FREQ. DEC.	GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD PACTOR	GLORAL % PREV.
The Company of the	CHEMICAL OXYGEN DEMAND   THAN   CHEMICAL OXYGEN DEMAND   CHEMICAL OXY	CONVENT	TONALS														
The Characteristic control of the	WINDOWS   WINDOWS   WIND   WINDOWS	COD	CHEMICAL OXYGEN DEMAND		-	1062749.00	-		100.0	45	45		1062749.00	892221.45	0.00	3.19	0.001
PRINCES NOT NOTE   PRINCES NOT NOT NOTE   PRINCES NOT	Figure   F	NNOTER	NITRATES, TOTAL, FILT REAC.		<u>~</u>	43.82	pen pen		100.0	8 4 8 8	43	97.9	3665.34	25.44	0.00	4.59	100.0
Figure   F	PHENGING STAMP.	NNTKUR	NITROGEN-TOF-KJEL,UNF.TOT		209	20916.33	~ ~		100.0	51	51	0.001	20916.33	36897.85	0.00	2.98	100.0
Market Restrict Total   Mark	Maintenance	PHINOL.	PHENOLICS (4AAP)		278.88	278.88	4 000	-	100.0	20	4 4	82.0	278.88	82.34	0.00	3.5	85.3
RESIDURITYOTLOSS ON ICRN	MESTIDUR: TOTAL   Mark   Mar	RST	PHOSPHORUS, UNFILT. TOTAL, RESIDUE, TOTAL,			50200.00			100.0	51	42	0.001	27689.24	20347.70	0.00	4.43	100.0
### STATES TO THE PART OF THE	ALMENINALIZOLAL  ALUMINIALIZOLAL  ALUMIN	RSTLOI	RESIDUE, TOT LOSS ON IGNI.			24800.00		-	0.001	: 5	2.5	100.0	24800.00	20803.05	0.00	1.71	100.0
ASSESSIONAL TOTAL CONDITIONAL MARKET TOTAL CONSTITUAÇIONAL CON	SILVER LINELLTTOTAL mulks 0 537371 53466 11 10000 455 40 40 41 40000 451 51 51 10000 451 51 51 10000 451 51 51 10000 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 451 400 4	METALS															
STATISTICAL CONTINUES   STAT	STATEMENT   STAT																
CASSESTICIONENT TOTAL.  THE ALDENO CONTRICATOR TOTAL TOTAL.  THE ALDENO CONTRICATOR TOTAL TOTAL.  THE ALDENO CONTRICATOR TOTAL	ABERNACIA   ABER	AGUT	SH.VER,UNFILT.TOTAL		34.66	34.66	,ed 0		100.0	45	9	88.9	34.66	30.17	0.00	2.61	84.4
CADALIMA, LINTON.   might   1053   1653   1653   1654   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650   1650	COMPRIMATE TOTAL.    Market	ASUT	ARSENIC, UNFILT. TOTAL.		9.76	9.76	-		100.0	7 57	20 2	0.00.0	9.76	9833.74	0.00	2.51	90.0
Comparison   Com	NETTRAL AND ACID EXTRACTABLE COMPOUNDS   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.94   153.9	CDCT	CADMIUM, UNEILT TOTAL		•	65.74	<b>~</b> •		100.0	43	40	93.0	65.74	9.74	0.00	4.35	0.06
Methodiscription	MARCIAR CHARLITOTIAL	CUUT	COMPERUNFILTIOTAL		741.24	741.24			100.0	46	46	100.0	741 24	501.43	8.0	3.68	1.000
PARADICHI LITOTAL.   mg/k	FALENCIMENTIATIONAL   Marks   0 159.28   119.28   119.00   49   48	HGUT	MERCURY, UNITED TOTAL.		3.78	3.78	-	-	100.0	20	20	100.0	3.78	2.23	0.00	1.67	100.0
STRONTILAM, INFO.T.   In	STRENCTILALIZATIONAL   TOTAL	SEUT	SELENIUM UNFILL TOTAL		25	3.59			0.001	\$ \$	24 4 30 34	0.86	5179.28	173.99	0.00	2.24	96.9
MACRISON	MCRESO	SRUT	STRONTIUM, UNFILT TOTAL		163	169.32			100.0	3 5 5	25.5	100.0	169.32	231.70	00.0	16.1	1000
EUTRAL AND ACID EXTRACTABLE COMPOUNDS  ACID MATCHESOL MATCH EXTRACTABLE COMPOUNDS  ACID MATCH SENT ACTION ACID EXTRACTABLE COMPOUNDS  ACID MATCH SENT ACID MAT	M-CRESOL			2 4	20:4000	003250			100.0	1	10	100.0	10334.00	95.50%	0.0	65.7	0.001
M-CRESOL.   HACRESOL.   HACR	M-CRESOL	BASENE	TRAL AND ACID EXTRACTABLE COMP	SUNDO													
ACTION   Color   Col	Marken   M	Date of Contract	N. O. J. G. J. F.				r				:						
PRINCHANTHERE	PHIORANTHENE   ULY   18350.60   8350.60   1   100.0   51   2     PHENANTHENE   ULY   11513.90   11513.90   1   100.0   51   2     PYRENE   ULY   1   100.0   51   1   1   1   1   1   1   1   1	PNACNY	ACENAPITY TENE	ug/kg 1	13345.80	13187.30			0.001	F 5	45	82.3	13545.80	4406.70	0.00	12.16	88.3
PYRENE   UMAR	PYRENE   PYRENE   Ug/kg   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513.90   11513	PNITAN	MAJORANTHENE	u Ske	8350.60	8350.60	-	_	100.0	51	. 63	3.9	8350.60	3083.50	0.00	1.97	8.9
Mark	DES,HERBICIDES,PCBS	PNINGS	PYRENE	ug/kg	8039.80	8039.80			100.0	2 S	10 m	3.9	8039.80	3563.50	0.00	2.19	5.9
ALDRIN   Name of the property of the propert	ALDRIN																
ALDRIN         LILAGINA         LILAGINA         49.80         49.80         11.8         49.80         46.60         0.00         2.50           ALPRIA BICHEXCHIORCYCLIHEXANE)         Ligks         1         40.00         51         12.35         40.00         5.30         0.00         2.74           BETA-BICHEXCHIORCYCLIHEXANE)         Ligks         1         100.00         51         18         35.3         10.00         5.74         0.00         2.74           BETA-BICHEXCHIORCYCLHEXANE)         Ligks         1         100.00         51         18         35.3         10.00         7.40         0.00         2.34           ALPHA-CHIORDANIE         Ligks         1         100.00         51         18         35.3         12.00         7.00         0.00         2.34           CAMMA-CHIORDANIE         Ligks         3         100.00         51         18         35.3         12.00         3.00         2.34           DIRLIDARIN         Ligks         3         10.00         51         1         100.00         51         1         3.33         1         3.24         3.00         2.34           DIRLIDARIN         Ligks         2.390         2.390         1	ALDRIN	PESTICID	ES,HERBICIDES,PCBS									11					
AJPHA-BHCGHEXCHIORCYCI-HEXANE  ug/ks   1 400   400   1   1000   51   12   23.5   400   5.50   0.00   274     BETA-BHCGHEXCHIORCYCI-HEXANE  ug/ks   1 1000   1000   1   1   1000   51   1   1   1   1   1   1   1   1	A PHA-BHCGHEXCH ORCYCI HEXANE  ugkg   1 400 4.00   1 100.0   51   12   12   13   14   14   14   14   14   14   14	PIALDR	ALDRIN	ne/ke 1	49 80	40 80			1000	\$	4	8	46 80	64.4	8	5	17.7
BETA-BHC (HEXCHLORCYCLHEXANE)   u_k_k_   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,00   10,	BETA-BHC (HEXCHLORCYCLHEXANE)   ug/kg   1 1000   1000   11   1000   11   18     ALPIACHLORDANE   ug/kg   1 1200   1200   1   1   1000   51   18     GAMMA-CHI ORDANE   ug/kg   1 1200   1200   1   1   1000   51   18     GAMMA-CHI ORDANE   ug/kg   2   31.90   31.90   1   1   100.0   51   19     ENDOSULFAN II   ug/kg   3   10.00   1   1   100.0   51   19     ENDOSULFAN II   ug/kg   3   10.00   1   1   100.0   51   18     ENDOSULFAN II   ug/kg   3   10.00   1   1   100.0   51   18     ENDOSULFAN II   ug/kg   2   10.00   1   1   100.0   51   18     ENDOSULFAN II   ug/kg   2   10.00   1   1   100.0   51   18     ENDOSULFAN II   ug/kg   2   10.00   1   1   100.0   51   18     ENDOSULFAN II   ug/kg   2   10.00   1   1   100.0   51   19     ENDOSULFAN II   ug/kg   1   4.00   4.00   1   1   100.0   51   19     PEDDD   PEDDD   ug/kg   1   67.70   67.70   1   100.0   51   6     PEDDT   Ug/kg   3   15.90   15.90   1   100.0   51   6     PEDDT   Ug/kg   3   15.90   15.90   1   100.0   51   6     PEDDT   Ug/kg   3   16.970   69.70   1   100.0   51   21     PEDDT   Ug/kg   3   69.70   69.70   1   100.0   51   21     ENDOSTRUCTORPHENOXYACETICACID   ug/kg   3   69.70   69.70   1   100.0   51   21     ENDOSTRUCTORPHENOXYACETICACID   ug/kg   3   69.70   69.70   1   100.0   51   21     ENDOSTRUCTORPHENOXYACETICACID   ug/kg   3   69.70   69.70   1   100.0   51   21     ENDOSTRUCTORPHENOXYACETICACID   ug/kg   3   69.70   69.70   1   100.0   51   21     ENDOSTRUCTORPHENOXYACETICACID   Ug/kg   3   69.70   69.70   1   100.0   51   21     ENDOSTRUCTORPHENOXYACETICACID   Ug/kg   3   69.70   100.0   1   100.0   51   21     ENDOSTRUCTORPHENOXYACETICACID   Ug/kg   3   69.70   1   100.0   51   21     ENDOSTRUCTORPHENOXYACETICACID   Ug/kg   3   69.70   1   100.0   51   21     ENDOSTRUCTORPHENOXYACETICACID   Ug/kg   3   69.70   1   100.0   51   51     ENDOSTRUCTORPHENOXYACETICACID   Ug/kg   3   69.70   1   100.0   51   51     ENDOSTRUCTORPHENOXYACETICACID   Ug/kg   3   69.70   1   100.0   51   51     ENDOSTRUCTORPHENOXYACETICACID   Ug/kg   3	PIBHCA	ALPHA-BHC(HEXCHLORCYCLJHEXANE)		4.00	4.00			100.0	5 5	12	23.5	4.00	5.50	0.00	2.74	35.3
CAMMAN CHILORDANIE]   UK   1   1   1   1   1   1   1   1   1	CAMMA_CTILORDANIE   UNA   1	PIBHCB PICHIA	BETA-BHC (HEXCHLORCYCL/JEXANE)	ug/kg 1	10.00	10.00			0.001	<u>د</u> د	8 .	35.3	10.00	7.40	0.0	3.20	38.2
Different black   Different	DIELDRIN   Ug/kg 2 3190 3190 1 1 100.0 51 20	PICHEG	GAMMA CHI ORDANE		8.00	8.00	-		100.0	. s	61	37.3	8.00	6.00	0.00	2.44	20.0
ENDING   Light   Lig	FINAL PACIFIC CONTRIBUTION   LIGHT STATE CONTR	PIDIEL.	DIELDRIN	ug/kg 2	31.90	31.90			100.0	51	02	39.2	31.90	7 20	00.00	3.10	20.0
HEPTACHLOR   Ug/kg   1 9160   91.60   1.000   51   7   13.7   91.60   4.50   0.00   2.83   Milklex   1.23.90   23.90   1.000   1.000   51   2   3.9   23.90   4.00   0.00   2.37   Milklex   Ug/kg   2 191.20   191.20   1   1 00.00   51   8   15.7   10.00   4.50   0.00   2.37   Milklex   Ug/kg   2 191.20   2191.20   1   1 00.00   51   40   78.4   2191.20   88.70   0.00   2.48   PP.DDE   PP.DDE   Ug/kg   1 67.70   4.00   4.00   51   1   1   1   1   1   1   1   1	HEPTACHLOR    UNIVERSITY   UN	PIFNDR	ENDRIN	ug/kg 3	10.00	10.00	-		0.001	2 2	۵ %	15.7	10.00	4.20	000	2.38	23.5
MINITAL MINISTRAL MINISTRA	MINITALY	PHHPT	HEPTACHLOR	ug/kg 3	09'16	09.16		-	100.0	51	1	13.7	91.60	4.50	0.00	2.83	20.6
PCB_TOTAL  UNIVE 2 2191.20 1 1 100.0 51 6 15.7 100.0 5.8 2.9 2.0 0.00 2.4	PRINCE CONTROLL CONTR	PIMIRX	MIRLX OXYGU OBDANE	ug/kg 1	23.90	23.90			100.0	15	2 0	3.9	23.90	4.00	00.00	2.37	5.9
PP DDD UD/M UN/M 1 4/00 4/00 1 1 100.0 51 13 25.5 4/00 5.10 0.00 2.48 PP DDD UN/M 1 67.70 67.70 1 1 100.0 51 22 43.1 67.70 7.30 0.00 2.31 PP-DDT UN/M 3 1590 15.90 1 1 100.0 51 2 6 11.8 15.90 16.40 0.00 2.27 24.5.TRICLORPHENOXYACETICACID UN/M 3 69.70 1 1 100.0 51 2 41.2 69.70 48.90 0.00 3.49	PP DDD PP-DDD ug/kg 1 4,00 4,00 1 1 100.0 51 13 PP-DDT PP-DDT Ug/kg 1 6770 6770 1 1 100.0 51 22 PP-DDT PP-DDT Ug/kg 3 15.90 15.90 1 1 100.0 51 22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	PIPCBT	PCB, TOTAL	ug/kg 2	2191.20	2191.20			0.001	2 2	* 0 <del>4</del>	78.4	2191.20	88.70	00.0	3.18	79.4
PE-DIM: ug/kg 1 1590 1570 1770 1 1 100.0 51 22 43.1 6770 7.30 0.00 2.31 PE-DIM: ug/kg 3 1590 1590 1 1 100.0 51 6 11.8 15.90 16.40 0.00 2.27 2.45.TRICLORPHENOXYACETIC ACID ug/kg 3 6970 6970 1 1 100.0 51 21 41.2 6970 48.90 0.00 3.49	PP-DDF: Ug/k 1 6770 6770 1 1 100.0 51 22 PP-DDF: Ug/k 3 15.90 15.90 1 1 100.0 51 2 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	DINADID	PP DDD	ug/kg 1	4.00	4.00	-		100.0	51	13	25.5	4.00	5.10	00.00	2.48	35.3
2.4.5 TRICLORPHENOXYACCITIC ACID ug/kg 3 69.70 69.70 1 1 100.00 51 21 41.2 69.70 48.90 0.00 3.49	2.4.5.TRICLORPHENOXYACETICACID ug/kg 3 69.70 69.70 1 1 100.0 51 21	PIPMOE	PP-DDE Be bot	ug/kg i	07.70	67.70			100.0	51	22	43.1	67.70	7.30	0.00	2.31	52.9
		P3245T	2,4,5. TRICLORPHENOXYACETIC ACID	ug/kg 3	06.50	69.70			100.0	7 5	21	41.2	06.51	16.40	00.0	3.49	47.1

	GLOBAL SPREAD FACTOR	6.50 3.40 4.06 2.65
	PLANT SPREAD FACTOR	0000
Sludge /eight	GLOBAL GEO. MEAN	93.20 47.30 9.30 5.60
E: Raw Sludge : Dry Weight	PLANT GEO. MEAN	53.80 41.80 37.80 145.40
SAMPLING TYPE :	GLOBAL. % FREQ. DET.	74.5 45.1 33.3 33.3
SAMPL	GLOBAL # DET	38 23 17
	GLOBAL.	25.25.25
	PLANT % FREQ. DET.	100.0 100.0 100.0 100.0
	PLANT PET.	
	PLANT # SAMPLES	
	PLANT MAX. DET. CONC.	53.80 41.80 37.80 145.40
nia	MIN. CONC.	53.80 41.80 37.80 145.40
ME : Sar PE : Pri	UNITSQA/QC PLANT (DRY CODEMIN. CONC WEIGHT) > DL	LEAKS 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
PLANT NAME: Sarnia PLANT TYPE: Primary	CONTAM: CONTAMINANT NAME	44-DICH OROPHENOXYACETIC ACID BILVEX 1,2,4-TRICHI OROBENZENE HEXACHLOROBENZENE
	CONTAM: CONTY	P324D 24-DICHE P381.V SB.VEX X2124 1,24-TRIC X21CB HEXACH

PLANT NAME: Sarnia PLANT TYPE: Primary

SAMPLING TYPE: Treated Sludge SAMPLE FORM: Dry Weight

2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103         2785 103	977545133         11000         36         36         1000         727545333         508997.94         0.00         465           2977.44         11         1000         25         23         1000         727545333         508997.94         0.00         229           2077.48         11         1000         25         23         1000         37         47,648         0.00         229           208.93         11         1000         49         41         1000         20         41         100         20           209.43         11         1000         49         41         1000         1000         40         41         1000         20         41           4000         11         10         40         41         1000         11000         40         41         1000         41         41         1000         41         41         1000         41         41         1000         41         41         1000         41         41         1000         41         41         1000         41         41         1000         41         41         1000         41         41         1000         41         41         41	1,15,15,15,15,15,15,15,15,15,15,15,15,15	CONTAMINANT NAME	UNITSQA/QC PLANT (DRY CODEMIN. CONC. WEIGHT) > DL	ONC. MAX. DET. CONC.	PLANT # SAMPLES	PLANT PET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL S. FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
727563.03         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1	172583.03         1         100.0         36         36         100.0         727563.03         46897.94         6465         465         465         467268.03         64697.94         600         229         452         4685         3697.48         7458.83         600         229         229         4685         4675         7458.83         600         229         229         4689         4689         7458.83         600         229         229         4689         4689         74         4689         74         4689         74         4689         74         4689         74         4689         74         4689         74         4689         74         7458.83         4619         600         229         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689         4689 <t< td=""><td>  17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   1779</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   17796.010   1779														
4000         25         25         1000         269.24         1768.8         0.00         292.25           29.24         1         1         100.0         49         49         100.0         228.9         147.66         0.00         1.77           29.24         1         1         100.0         49         41         180.7         228.9         1.47         0.00         1.77           43.89.75         1         1         100.0         49         41         180.7         2.89         1.47         0.00         1.77           13.89.75         1         1         100.0         49         41         180.0         2.94         4.17         1.00         1.77           119000000         1         1         100.0         49         41         100.0         1.74         1.00         1.77           46200.0         1         1         100.0         50         50         100.0         1.78         4.17         1.77         1.77         1.77         1.77         1.77         1.77         1.77         1.77         1.77         1.77         1.77         1.77         1.77         1.77         1.77         1.77         1.77         <	1997-18         1000         25         25         1800         2697-18         1808         2298         1800         229         22         1800         25         25         1800         25         25         1800         25         25         1800         25         25         1800         25         25         1800         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25         25	1,000,000   1,000,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,00						100.0	28	36	100.0	727563.03	\$08097.94	0.00	4.65	0'001
6023         1 1000         49         49         100         628491         3894412         0.00         1.77           2269         1 1 1000         49         41         100         693         4105         0.00         114           34369.73         1 1 1000         49         41         100         693         4105         0.00         114           46200.00         1 1000         49         41         100         60         4105         0.00         114           119000.00         1 1000         40         41         100         60         691         0.00         114           119000.00         1 1000         40         41         100         46200.00         4379.33         0.00         114           11900.00         1 1000         44         44         100         46200.00         4379.33         0.00         319           11900.00         1 100         50         50         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100 </td <td>2,555,70         1         100,00         47         47         100,00         2,288,91         3,10         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100</td> <td>  Columbia   Columbia</td> <td></td> <td>30,</td> <td></td> <td></td> <td></td> <td>100.0</td> <td>2 % 3</td> <td>ននេះ</td> <td>88.5</td> <td>3697.48</td> <td>17658.28</td> <td>0.00</td> <td>2.92</td> <td>100.0</td>	2,555,70         1         100,00         47         47         100,00         2,288,91         3,10         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100	Columbia   Columbia		30,				100.0	2 % 3	ននេះ	88.5	3697.48	17658.28	0.00	2.92	100.0
43.269         1         100.0         49         41         83.7         2269         4305         000         314           43.269.3         1         100.0         43         41         100.0         43694.0         000         691           119000.00         1         100.0         50         50         100.0         14369.3         76638.0         000         519           46200.00         1         100.0         50         50         100.0         14369.3         77.78         0.00         519           1924.3         1         1         100.0         44         44         100.0         60.23         37.78         0.00         233           1924.3         1         1         100.0         44         44         100.0         60.23         37.78         0.00         233           1934.3         1         1         100.0         44         44         100.0         43773         10775         0.00         233           1934.4         1         1         100.0         44         44         100.0         11349         0.00         233           1934.5         1         1         1         1	5,50,50         11         100.00         49         41         100.00         44,05         40.00         40.00         90.00         311           11,900.00         1         1         100.00         50         100.00         1490.00         6491.40         0.00         311           11,900.00         1         1         100.0         50         50         100.0         1490.00         691.40         0.00         312           10,22         1         1         100.0         50         50         100.0         1490.00         312         100         312         100         312         100         100         100         100         100         100         312         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100         100	1,445   1,100   4,4   4,1   1,26   4,45   1,00   1,449   1,10   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,149   1,14		6.9				100.0	47	47	100.0	66.9	38494.12	0.00	1.09	100.0
119000.00	1900.00   1   1900.0   50   50   100   10000   6454.0   100   1523   10000   1000   1000   1000   1523   10000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   1000   10000   10000   10000   10000   10000   10000   10000   10000   10000   10000   10000   10000   1	1900.00   1   1   100.0   59   59   100.0   15900.00   45179.33   0.00   3.19	mg/kg 0	34369.7.				100.0	<b>\$</b> £	43	100.0	34369.75	43.05	0.00	3.14	1000
66.25         1         100.0         44         44         100.0         66.25         37.78         0.00         233           10924.37         1         100.0         50         49         49         100.0         100.0         282           13.28         1         100.0         50         49         98.0         13.28         50         0.00         2.82           13.28         1         100.0         45         41         91.1         50.42         10.0         2.82           13.44         1         100.0         45         41         91.1         50.42         10.0         2.82           13.44         1         100.0         50         49         98.0         13.24         0.00         2.04           2.24         1         100.0         50         49         98.0         2.34         0.00         2.46           457.75         1         100.0         50         48         96.0         2.52         2.67         0.00         2.54           15126.05         1         1         100.0         50         48         96.0         2.53         2.67         0.00         2.54 <td< td=""><td>  1962.43   1   100.0   44   44   100.0   60.24   17.78   0.00   2.33     1954.37   1   100.0   50   59   100.0   13.28   540   0.00   2.06     1954.37   1   100.0   50   50   100.0   13.28   540   0.00   2.06     1954.37   1   100.0   50   50   100.0   13.28   540   0.00   2.06     1954.37   1   100.0   50   54   59   50.0   13.28   312.4   0.00   2.06     204.85   1   100.0   50   54   59   50.0   13.28   312.4   0.00   2.06     204.85   1   100.0   50   49   59.0   2.34   312.4   0.00   2.06     255.0   1   100.0   50   49   59.0   2.34   312.4   0.00   2.06     155.0   1   100.0   50   49   59.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   49   59.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   50   100.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   50   100.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   50   100.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   1   100.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   1   100.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   1   100.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   1   100.0   2.00   2.00     155.0   1   100.0   50   1   100.0   2.00   2.00     155.0   1   100.0   50   1   100.0   2.00   0.00   2.24     155.0   1   100.0   50   1   1   2.0   2.50   2.50   0.00   2.24     155.0   1   100.0   50   1   1   2.0   2.50   0.00   0.00   2.24     155.0   1   100.0   50   12   40.0   0.00   0.00   2.24     155.0   1   100.0   50   12   40.0   0.00   0.00   2.24     155.0   1   100.0   50   12   40.0   0.00   0.00   0.00     155.0   100.0   100.0   100.0   100.0   100.0   100.0     155.0   100.0   100.0   100.0   100.0   100.0     155.0   100.0   100.0   100.0   100.0   100.0     155.0   100.0   100.0   100.0   100.0     155.0   100.0   100.0   100.0   100.0     155.0   100.0   100.0   100.0     155.0   100.0   100.0   100.0     155.0   100.0   100.0   100.0     155.0   100.0   100.0     155.0   100.0   100.0     155.0   100.0   100.0     155.0</td><td>  1000   51   1000   54   54   54   56   56   57   57   58   57   58   58   58   58</td><td></td><td>119000.0</td><td></td><td></td><td></td><td>100.0</td><td>88</td><td>8 8</td><td>100.0</td><td>119000.00</td><td>80434.04</td><td>0000</td><td>3.23</td><td>0.001</td></td<>	1962.43   1   100.0   44   44   100.0   60.24   17.78   0.00   2.33     1954.37   1   100.0   50   59   100.0   13.28   540   0.00   2.06     1954.37   1   100.0   50   50   100.0   13.28   540   0.00   2.06     1954.37   1   100.0   50   50   100.0   13.28   540   0.00   2.06     1954.37   1   100.0   50   54   59   50.0   13.28   312.4   0.00   2.06     204.85   1   100.0   50   54   59   50.0   13.28   312.4   0.00   2.06     204.85   1   100.0   50   49   59.0   2.34   312.4   0.00   2.06     255.0   1   100.0   50   49   59.0   2.34   312.4   0.00   2.06     155.0   1   100.0   50   49   59.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   49   59.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   50   100.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   50   100.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   50   100.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   1   100.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   1   100.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   1   100.0   176.47   20.95   0.00   2.24     155.0   1   100.0   50   1   100.0   2.00   2.00     155.0   1   100.0   50   1   100.0   2.00   2.00     155.0   1   100.0   50   1   100.0   2.00   0.00   2.24     155.0   1   100.0   50   1   1   2.0   2.50   2.50   0.00   2.24     155.0   1   100.0   50   1   1   2.0   2.50   0.00   0.00   2.24     155.0   1   100.0   50   12   40.0   0.00   0.00   2.24     155.0   1   100.0   50   12   40.0   0.00   0.00   2.24     155.0   1   100.0   50   12   40.0   0.00   0.00   0.00     155.0   100.0   100.0   100.0   100.0   100.0   100.0     155.0   100.0   100.0   100.0   100.0   100.0     155.0   100.0   100.0   100.0   100.0   100.0     155.0   100.0   100.0   100.0   100.0     155.0   100.0   100.0   100.0   100.0     155.0   100.0   100.0   100.0     155.0   100.0   100.0   100.0     155.0   100.0   100.0   100.0     155.0   100.0   100.0     155.0   100.0   100.0     155.0   100.0   100.0     155.0	1000   51   1000   54   54   54   56   56   57   57   58   57   58   58   58   58		119000.0				100.0	88	8 8	100.0	119000.00	80434.04	0000	3.23	0.001
60.25         1         100.0         44         44         100.0         60.23         37.78         0.00         2.33           1924.37         1         1         100.0         50         50         100.0         10924.37         10715.94         0.00         2.82           13.28         1         1         100.0         45         49         98.0         100.0         3.94           50.42         1         1         100.0         45         49         98.0         194.2         104.0         3.96           134.45         1         1         100.0         45         45         104.0         0.00         2.82           2.94         1         1         100.0         45         45         104.0         0.00         2.16           2.94         1         1         100.0         50         48         96.0         2.52         2.67         0.00         2.94           1.56.47         1         1         100.0         50         48         96.0         1.52.0         1.96.2         1.00         1.00         1.16.4         1.00         1.00         1.00         1.16.4         1.00         1.00         1.00	1,000,000,000,000,000,000,000,000,000,0	1962.5   1   100.0   44   44   100.0   60.35   77.3   100.0   2.33   100.0   2.34   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.45   100.0   2.														
60.23         1         100.0         44         44         100.0         60.23         37.78         0.00         2.33           13.28         1         1 100.0         50         50         100.0         10924.37         10715.94         0.00         2.83           9.42         1         1 100.0         50         50         100.0         13.28         540         0.00         2.05           1.3.44         1         1 100.0         45         49         98.0         13.44         0.00         2.06           921.85         1         1 100.0         45         45         100.0         921.83         732.4         0.00         2.06           921.85         1         1 100.0         45         45         100.0         921.83         732.4         0.00         2.06           134.45         1         1 100.0         50         49         96.0         2.24         0.00         2.06           2.52         1         1 100.0         50         48         96.0         2.52         267         100         2.34           176.47         1         1 100.0         50         50         100.0         176.47         240.	1974   1   1000   44   44   100   10024   3778   0.00   233   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   178   17	13.26   1.00   144   144   1100   160.24   17.78   10.00   2.23   17.78   10.00   2.23   17.78   10.00   2.24   17.78   17.78   10.00   2.24   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78   17.78														
19924.37	1932   1934   1900   50   50   1900   1904   1904   1900   1904   1900   1904   1900   1904   1900   1904   1900   1904   1900   1904   1900   1904   1900   1904   1900   1904   1900   1904   1900   1904   1900   1904   1900   1904   1900   1904   1904   1900   1904   1900   1904   1900   1904   1900   1904   1900   1904   1900   1904   1900   1904   1904   1900   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904   1904	1973.47   1   1   100.0   50   50   100.0   100.47   1071544   100.0   227   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0   103.0	пе/ке о	60.2		-	-	100.0	4	1	100.0	60.25	37.78	000	2.11	1000
13-28   1   100.0   45   49   98.0   13.28   34.0   9.00   2.06     13-4.45   1   100.0   45   49   98.0   13.28   34.0   9.00   2.06     13-4.45   1   100.0   50   45   45   100.0   134.45   133.04   0.00   2.16     24.45   1   100.0   50   49   98.0   2.94   32.4   0.00   2.16     25-4   1   100.0   50   49   98.0   2.94   32.4   0.00   2.16     25-5   1   100.0   50   48   96.0   2.57   2.07   0.00   2.94     13-126.05   1   100.0   50   48   96.0   15126.05   988.90   0.00   2.54     15-126.06   1   100.0   50   8   16.0   2563.00   1916.90   0.00   3.26     25-63.00   1   100.0   50   4   8.0   94.0   94.20   0.00   3.26     25-63.00   1   100.0   50   4   8.0   94.370   1918.90   0.00   3.26     25-63.00   1   100.0   50   4   8.0   9243.70   1918.90   0.00   4.27     25-63.00   1   100.0   50   12   24.0   126.50   0.00   3.26     25-63.00   1   100.0   50   12   24.0   126.30   0.00   4.27     25-63.00   1   100.0   50   12   24.0   126.30   0.00   3.26     25-63.00   1   100.0   50   12   24.0   126.30   0.00   3.26     25-63.00   1   100.0   50   12   24.0   126.30   0.00   3.26     25-63.00   25-63.00   25-63.00   25-63.00   25-63.00   3.44     25-63.00   25-63.00   25-63.00   25-63.00   25-63.00   25-63.00     25-63.00   25-63.00   25-63.00   25-63.00   25-63.00     25-63.00   25-63.00   25-63.00   25-63.00   25-63.00     25-63.00   25-63.00   25-63.00   25-63.00     25-63.00   25-63.00   25-63.00   25-63.00     25-63.00   25-63.00   25-63.00   25-63.00     25-63.00   25-63.00   25-63.00     25-63.00   25-63.00   25-63.00     25-63.00   25-63.00   25-63.00     25-63.00   25-63.00   25-63.00     25-63.00   25-63.00   25-63.00     25-63.00   25-63.00   25-63.00     25-63.00   25-63.00     25-63.00   25-63.00     25-63.00   25-63.00     25-63.00   25-63.00     25-63.00   25-63.00     25-63.00   25-63.00     25-63.00   25-63.00     25-63.00   25-63.00     25-63.00   25-63.00     25-63.00   25-63.00     25-63.00   25-63.00     25-63.00   25-63.00     25-63.00   25-63.00     25-63.00   25-63.00     25-6	13.42         1 (100.0         50         41         98.0         13.28         3.40         0.00         2.98           9.13.4         1 (100.0         45         49         98.0         13.23         3.40         0.00         2.98           9.13.4         1 (100.0         45         49         98.0         457.92         0.00         2.04           45372.2         1 (100.0         50         49         98.0         457.92         0.00         2.04           45372.2         1 (100.0         50         49         98.0         457.92         0.00         2.04           1 (100.0         50         49         98.0         457.92         1.04         0.00         2.04           1 (100.0         50         49         98.0         457.92         1.04         0.00         2.04           1 (100.0         50         49         98.0         457.92         1.06         2.04         2.04         2.06         2.00         2.04         2.06         2.06         2.06         2.06         2.06         2.06         2.06         2.06         2.06         2.06         2.06         2.06         2.06         2.06         2.06         2.06	1,444   1,100   45   47   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   914   91		10924.3	100		powel pe	100.0	20	20	100.0	10924.37	10715.94	0.00	2.82	100.0
134.45         1         100.0         50         50         134.45         333.06         0.00         3.59           291.85         1         1         100.0         45         45         100.0         921.85         33.24         0.00         2.16           294         1         1         100.0         50         49         98.0         2.94         3.34         0.00         2.16           4537.82         1         1         100.0         50         48         96.0         2.52         2.67         0.00         2.96           176.47         1         1         100.0         50         48         96.0         2.52         2.67         0.00         2.98           176.47         1         1         100.0         50         48         96.0         1.52         2.67         0.00         2.54           15126.05         1         1         100.0         50         50         100.0         15126.05         988.90         0.00         2.54           15126.05         1         1         1         1         1         1         1         1         1         1         1         1         1 <t< td=""><td>  1,14,4   1   100,0   50   50   100   134,4   333,0   0.00   3.59     2,145   1   1   100,0   50   45   100,0   92,145   72,14   0.00   2.46     2,244   1   1   100,0   50   49   98,0   2.47   126,2   0.00   2.46     1,15,6/3   1   1   100,0   50   49   98,0   176,4   126,2   0.00   2.46     1,15,6/3   1   1   100,0   50   49   98,0   176,4   126,2   0.00   2.46     1,15,6/3   1   1   100,0   50   49   98,0   176,4   126,2   0.00   2.46     1,15,6/3   1   1   100,0   50   50   100,0   176,4   138,9   0.00   2.54     1,15,6/3   1   1   100,0   50   4   8,0   92,43,70   131,9 90   0.00   3.27     1,15,6/3   1   1   100,0   50   12   40   126,0   0.00   3.27     1,15,6/3   1   1   100,0   50   12   40   126,0   0.00   3.27     1,15,6/3   1   1   100,0   50   12   40   126,0   0.00   3.24     1,15,6/3   1   1   100,0   50   12   40   126,0   0.00   3.24     1,15,6/3   1   1   100,0   50   12   40   126,0   0.00   3.24     1,15,6/3   1   1   100,0   50   12   40   126,0   0.00   3.24     1,15,6/3   1   1   100,0   50   12   40   126,0   0.00   3.24     1,15,6/3   1   1   100,0   50   12   40   50   6.70   0.00   2.67     1,15,6/3   1   1   100,0   50   12   40   50   6.70   0.00   2.45     1,15,6/3   1   1   100,0   50   12   40   50   6.70   0.00   2.45     1,15,6/3   1   1   100,0   50   12   40   50   6.70   0.00   2.45     1,15,6/3   1   1   100,0   50   12   40   6.70   6.70   0.00   2.45     1,15,6/3   1   1   100,0   50   12   40   6.70   6.70   0.00   2.45     1,15,6/3   1   1   100,0   50   12   40   6.70   0.00   2.45     1,15,6/3   1   1   100,0   50   12   40   6.70   6.70   0.00   2.55     1,15,6/3   1   1   100,0   50   12   40   6.70   6.70   0.00   2.55     1,15,6/3   1   1   100,0   50   12   40   6.70   6.70   0.00   2.55     1,15,6/3   1   1   100,0   50   14   6.70   6.70   0.00   5.70     1,15,6/3   1   1   100,0   50   14   6.70   6.70   0.00   5.70     1,15,6/3   1   1   100,0   50   14   6.70   6.70   6.70   0.00   6.20     1,15,6/3   1   1   100,0   50   14   6.70   6.70   6.70   6.70   6.7</td><td>  19445   1   1000   50   50   1000   13445   33306   0.00   339   399   3243   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244  </td><td>mg/kg 0</td><td>50.4</td><td></td><td></td><td></td><td>100.0</td><td>45</td><td>4 4</td><td>91.16</td><td>50.42</td><td>10.47</td><td>0.00</td><td>3.98</td><td>90.3</td></t<>	1,14,4   1   100,0   50   50   100   134,4   333,0   0.00   3.59     2,145   1   1   100,0   50   45   100,0   92,145   72,14   0.00   2.46     2,244   1   1   100,0   50   49   98,0   2.47   126,2   0.00   2.46     1,15,6/3   1   1   100,0   50   49   98,0   176,4   126,2   0.00   2.46     1,15,6/3   1   1   100,0   50   49   98,0   176,4   126,2   0.00   2.46     1,15,6/3   1   1   100,0   50   49   98,0   176,4   126,2   0.00   2.46     1,15,6/3   1   1   100,0   50   50   100,0   176,4   138,9   0.00   2.54     1,15,6/3   1   1   100,0   50   4   8,0   92,43,70   131,9 90   0.00   3.27     1,15,6/3   1   1   100,0   50   12   40   126,0   0.00   3.27     1,15,6/3   1   1   100,0   50   12   40   126,0   0.00   3.27     1,15,6/3   1   1   100,0   50   12   40   126,0   0.00   3.24     1,15,6/3   1   1   100,0   50   12   40   126,0   0.00   3.24     1,15,6/3   1   1   100,0   50   12   40   126,0   0.00   3.24     1,15,6/3   1   1   100,0   50   12   40   126,0   0.00   3.24     1,15,6/3   1   1   100,0   50   12   40   126,0   0.00   3.24     1,15,6/3   1   1   100,0   50   12   40   50   6.70   0.00   2.67     1,15,6/3   1   1   100,0   50   12   40   50   6.70   0.00   2.45     1,15,6/3   1   1   100,0   50   12   40   50   6.70   0.00   2.45     1,15,6/3   1   1   100,0   50   12   40   50   6.70   0.00   2.45     1,15,6/3   1   1   100,0   50   12   40   6.70   6.70   0.00   2.45     1,15,6/3   1   1   100,0   50   12   40   6.70   6.70   0.00   2.45     1,15,6/3   1   1   100,0   50   12   40   6.70   0.00   2.45     1,15,6/3   1   1   100,0   50   12   40   6.70   6.70   0.00   2.55     1,15,6/3   1   1   100,0   50   12   40   6.70   6.70   0.00   2.55     1,15,6/3   1   1   100,0   50   12   40   6.70   6.70   0.00   2.55     1,15,6/3   1   1   100,0   50   14   6.70   6.70   0.00   5.70     1,15,6/3   1   1   100,0   50   14   6.70   6.70   0.00   5.70     1,15,6/3   1   1   100,0   50   14   6.70   6.70   6.70   0.00   6.20     1,15,6/3   1   1   100,0   50   14   6.70   6.70   6.70   6.70   6.7	19445   1   1000   50   50   1000   13445   33306   0.00   339   399   3243   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244   3244	mg/kg 0	50.4				100.0	45	4 4	91.16	50.42	10.47	0.00	3.98	90.3
921.85         1         100.0         45         45         100.0         921.85         732.4         0.00         2.16           2.94         1         100.0         50         49         98.0         2.94         3.24         0.00         2.04           4.537.82         1         100.0         50         49         98.0         2.94         3.24         0.00         2.04           1.76.47         1         1         100.0         50         48         96.0         2.52         2.67         0.00         2.98           1.76.47         1         1         100.0         50         48         96.0         1.25         2.67         0.00         2.98           1.5126.05         1         1         100.0         50         50         100.0         15126.05         988.90         0.00         2.54           1.5126.05         1         1         1         100.0         50         50         100.0         15126.05         988.90         0.00         2.54           1.5126.0         1         1         1         1         1         1         1         1         1         1         1         1         1 </td <td>2543.00         1 100.00         45         45         100.0         92.18.3         73.24         0.00         2.16           2.94.1         1 100.0         50         49         98.0         457.1         0.00         2.16           2.57         1 100.0         50         49         98.0         457.2         106.2         0.00         2.46           1.76.47         1 100.0         50         49         98.0         457.2         0.00         2.46           1.76.47         1 100.0         50         49         98.0         457.2         0.00         2.46           1.76.47         1 100.0         50         49         98.0         176.4         2.47         0.00         2.46           1.76.47         1 100.0         50         49         98.0         98.0         9.24         0.00         2.54           1.26.50.0         1 100.0         50         49         100.0         116.4         2.44         0.00         2.54           1.26.61.70         1 100.0         50         4         50         14.0         0.00         2.54           2.56.70         1 100.0         50         4         50         2.543.0</td> <td>243.83         1 100.0         45         49         90.0         244         334         000         216           4537.82         1 100.0         50         49         98.0         294         334         000         216           176.47         1 100.0         50         49         98.0         126         000         246           176.47         1 100.0         50         49         98.0         126         000         246           176.47         1 100.0         50         49         98.0         126         000         246           15126.05         1 100.0         50         50         100.0         1160.0         249         50         100.0         249           15126.05         1 100.0         50         50         100.0         1160.0         50         100.0         249         50         100.0         249         50         100.0         249         50         100.0         249         50         100.0         50         249         50         100.0         249         50         100.0         50         50         50         100.0         50         50         50         50         50         50<td></td><td>134.4</td><td></td><td>-</td><td>-</td><td>100.0</td><td>20</td><td>20</td><td>100.0</td><td>134.45</td><td>333.06</td><td>00.00</td><td>3.59</td><td>100.0</td></td>	2543.00         1 100.00         45         45         100.0         92.18.3         73.24         0.00         2.16           2.94.1         1 100.0         50         49         98.0         457.1         0.00         2.16           2.57         1 100.0         50         49         98.0         457.2         106.2         0.00         2.46           1.76.47         1 100.0         50         49         98.0         457.2         0.00         2.46           1.76.47         1 100.0         50         49         98.0         457.2         0.00         2.46           1.76.47         1 100.0         50         49         98.0         176.4         2.47         0.00         2.46           1.76.47         1 100.0         50         49         98.0         98.0         9.24         0.00         2.54           1.26.50.0         1 100.0         50         49         100.0         116.4         2.44         0.00         2.54           1.26.61.70         1 100.0         50         4         50         14.0         0.00         2.54           2.56.70         1 100.0         50         4         50         2.543.0	243.83         1 100.0         45         49         90.0         244         334         000         216           4537.82         1 100.0         50         49         98.0         294         334         000         216           176.47         1 100.0         50         49         98.0         126         000         246           176.47         1 100.0         50         49         98.0         126         000         246           176.47         1 100.0         50         49         98.0         126         000         246           15126.05         1 100.0         50         50         100.0         1160.0         249         50         100.0         249           15126.05         1 100.0         50         50         100.0         1160.0         50         100.0         249         50         100.0         249         50         100.0         249         50         100.0         249         50         100.0         50         249         50         100.0         249         50         100.0         50         50         50         100.0         50         50         50         50         50         50 <td></td> <td>134.4</td> <td></td> <td>-</td> <td>-</td> <td>100.0</td> <td>20</td> <td>20</td> <td>100.0</td> <td>134.45</td> <td>333.06</td> <td>00.00</td> <td>3.59</td> <td>100.0</td>		134.4		-	-	100.0	20	20	100.0	134.45	333.06	00.00	3.59	100.0
4537.82   1   100.0   50   49   98.0   45.24   196.62   0.00   2.44   176.47   1   100.0   50   48   98.0   4537.82   196.62   0.00   2.44   176.47   1   100.0   50   48   98.0   176.47   240.93   0.00   2.54   15126.05   1   100.0   50   50   100.0   15126.05   988.90   0.00   2.57   15126.05   1   1   1   1   1   1   1   1   1	15126.05   1   100.00   50   49   98.0   457.72   19.62   0.00   2.44     15126.05   1   100.00   50   48   98.0   457.72   19.62   0.00   2.44     15126.05   1   100.00   50   48   98.0   15.0   15.0   0.00   2.57     15126.05   1   100.00   50   48   16.0   2543.00   1916.90   0.00   2.57     15126.05   1   100.00   50   1   2.0   6142.90   1908.40   0.00   2.57     15126.05   1   100.00   50   1   2.0   6142.90   1908.40   0.00   2.57     15126.05   1   100.00   50   1   2.0   6142.90   1908.40   0.00   2.57     15126.05   1   100.00   50   1   2.0   6142.90   1908.40   0.00   2.57     15126.05   1   100.00   50   1   2.4   2.0   6142.90   1908.40   0.00   2.57     1526.07   1   100.00   50   1   2.4   0.264.70   1328.10   0.00   4.27     1526.07   1   100.00   50   12   24.0   2203.30   0.00   4.27     1526.07   1   100.00   50   12   24.0   2.50   3.90   0.00   2.54     1526.07   1   100.00   50   12   24.0   5.0   5.0   0.00   2.54     1626.07   1   100.00   50   12   24.0   5.0   0.00   2.54     1626.07   1   100.00   50   24   4.0   0.00   2.54     1626.07   1   100.00   50   24   4.0   0.00   2.54     1626.07   1   100.00   50   24   4.0   0.00   2.54     1626.07   1   100.00   50   24   4.0   0.00   2.54     1626.07   1   100.00   50   24   4.0   0.00   2.54     1626.07   1   100.00   50   24   4.0   0.00   2.54     1626.07   1   100.00   50   24   4.0   0.00   2.54     1626.07   1   100.00   50   24   4.0   0.00   2.54     1626.07   1   100.00   50   24   4.0   0.00   2.54     1626.07   1   100.00   50   24   4.0   0.00   2.54     1626.07   1   100.00   50   24   4.0   0.00   2.54     1626.07   1   100.00   50   24   4.0   0.00   2.54     1626.07   1   100.00   50   24   4.0   0.00   2.54     1626.07   1   100.00   50   24   24   24   24   24   24   24   2	4537.82         1         1000         50         49         98.0         4537.82         196.2         0.00         246           2.52         1         1000         50         48         96.0         4537.82         196.2         0.00         246           175.40         1         1         1000         50         48         96.0         4537.82         196.2         0.00         246           175.41         1         1000         50         48         96.0         157.84         0.00         254           1512.6.05         1         1         1000         50         48         16.0         1515.645         98890         0.00         247           2563.70         1         1         1000         50         4         80         9243.70         138990         0.00         2.57           2543.70         1         1         1000         50         4         80         243.70         13899         0.00         2.57           2543.70         1         1         1000         50         4         80         243.70         13899         0.00         2.57           2543.70         1         1	mg/kg 0	921.8				100.0	<del>2</del> 2	\$ 45	100.0	921.85	732.24	0.00	2.16	100.0
1,252         1         100.0         50         48         96.0         2,32         267         0.00         2,98           1,1647         1         1         100.0         50         100.0         17647         240.93         0.00         2,54           1,156.05         1         1         100.0         50         50         100.0         17647         240.93         0.00         2,54           1,156.05         1         1         1         100.0         50         8         16.0         1,512.0         988.90         0.00         2,57           1,156.05         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         2         2         1         1         1         2         1         1         1         1         1         1         1         1         1         1         1         1         1 <td< td=""><td>  1512.6.05</td><td>  15126.05   1   100.00   50   48   96.0   1252   2.67   0.00   2.98   15126.05   1   1   1   1   1   1   1   1   1  </td><td></td><td>4537.8</td><td>45</td><td></td><td>• •••</td><td>100.0</td><td>2 2</td><td>4 6</td><td>98.0</td><td>4537.82</td><td>196.62</td><td>000</td><td>2.46</td><td>97.1</td></td<>	1512.6.05	15126.05   1   100.00   50   48   96.0   1252   2.67   0.00   2.98   15126.05   1   1   1   1   1   1   1   1   1		4537.8	45		• •••	100.0	2 2	4 6	98.0	4537.82	196.62	000	2.46	97.1
15126.05	15126.05   1   1   100.0   50   50   100.0   15126.05   588.99   0.00   2.57     15126.05   1   1   100.0   50   50   100.0   15126.05   588.99   0.00   2.57     15126.05   1   1   100.0   50   50   100.0   15126.05   588.99   0.00   2.57     15126.10   1   100.0   50   4   8.0   9243.70   1388.90   0.00   3.28     15261.70   1   100.0   50   4   8.0   9243.70   1388.90   0.00   3.28     15261.70   1   100.0   50   12   24.0   1382.10   0.00   3.28     15261.70   1   100.0   50   12   24.0   1382.10   0.00   3.24     15261.70   1   100.0   50   19   24.3   2124.30   0.00   4.39     15261.70   1   100.0   50   19   18   2.0   0.50   0.00   1.93     15261.70   1   100.0   50   19   18   0.50   0.50   0.00     15261.70   1   100.0   50   12   24.0   0.50   0.00   1.93     15261.70   1   100.0   50   12   24.0   0.50   0.00   1.93     15261.70   1   100.0   50   12   24.0   0.00   0.00     15261.70   1   100.0   50   21   24.0   0.00   0.00     15261.70   1   100.0   50   34   0.00   0.00     15261.70   1   100.0   50   34   0.00     15261.70   1   100.0   50   34   0.00     15261.70   1   100.0   50   16   0.00     15261.70   1   100.0   50   16   0.00     15261.70   1   100.0   50   16   0.00     15261.70   1   1   1   1   1     15261.70   1   1   1   1   1     15261.70   1   1   1   1   1     15261.70   1   1   1   1     15261.70   1   1   1   1   1     15261.70   1   1   1   1   1     15261.70   1   1   1   1   1     15261.70   1   1   1   1     15261.70   1   1   1   1   1     15261.70   1   1   1   1   1     15261.70   1   1   1   1   1     15261.70   1   1   1   1     15261.70   1   1   1   1   1     15261.70   1   1   1   1   1     15261.70   1   1   1   1   1     15261.70   1   1   1   1     15261.70   1   1   1   1   1     15261.70   1   1   1   1   1     15261.70   1   1   1   1   1     15261.70   1   1   1   1   1   1     15261.70   1   1   1   1   1   1     15261.70   1   1   1   1   1   1     15261.70   1   1   1   1   1   1     15261.70   1   1   1   1   1   1   1     15261.70   1   1   1   1   1	15156.05   1   1   100.0   50   50   100.0   15156.05   988.90   0.00   2.57     2565.06   1   1   100.0   50   50   100.0   15156.05   988.90   0.00   2.57     2565.06   1   1   100.0   50   1   2.0   044.30   1916.90   0.00   2.57     2560.70   1   1   100.0   50   1   2.0   044.30   1918.90   0.00   2.57     2560.70   1   1   100.0   50   1   2.0   0201.70   1338.90   0.00   2.57     2570   1   1   100.0   50   1   2.0   0201.70   1338.90   0.00   2.57     25.0   1   1   100.0   50   1   2.0   0201.70   1348.90   0.00   2.57     25.0   1   1   100.0   50   1   2.0   2.43.70   1348.90   0.00   2.57     25.0   1   1   100.0   50   1   2.0   2.43.70   2.134.30   0.00   2.57     25.0   1   1   100.0   50   1   2.0   2.43.70   2.134.30   0.00   2.57     25.0   1   1   100.0   50   1   2.0   2.43.70   2.134.30   0.00   2.57     25.0   1   1   100.0   50   1   2.0   2.43.70   2.134.30   0.00   2.57     25.0   1   1   100.0   50   1   2.0   2.40   0.00   2.51     25.0   1   1   100.0   50   1   4.20   5.00   0.00   2.51     25.0   1   1   100.0   50   1   4.20   0.00   2.51     25.0   1   1   100.0   50   1   6.0   0.00   2.51     25.0   1   1   100.0   50   1   6.0   0.00   2.51     25.0   1   1   100.0   50   1   6.0   0.00   0.00     25.0   25.0   1   1   1   1   1   1     25.0   25.0   1   1   1   1   1   1     25.0   25.0   1   1   1   1   1     25.0   25.0   1   1   1   1   1     25.0   25.0   1   1   1   1   1     25.0   25.0   25.0   25.0     25.0   25.0   25.0   25.0   25.0     25.0   25.0   25.0   25.0     25.0   25.0   25.0   25.0     25.0   25.0   25.0   25.0     25.0   25.0   25.0   25.0     25.0   25.0   25.0   25.0     25.0   25.0   25.0   25.0     25.0   25.0   25.0     25.0   25.0   25.0   25.0     25.0   25.0   25.0     25.0   25.0   25.0     25.0   25.0   25.0     25.0   25.0   25.0     25.0   25.0   25.0     25.0   25.0   25.0     25.0   25.0   25.0     25.0   25.0   25.0     25.0   25.0   25.0     25.0   25.0   25.0     25.0   25.0     25.0   25.0     25.0   25.0     25.0   25.0     25.0   25.	mg/kg 0	1764	-			100.0	200	8 °	96.0	2.52	2.67	0.00	2.98	97.1
2563.00         1         1         100.0         50         8         16.0         2563.00         1916.90         0.00         5.23           6142.90         1         1         100.0         50         1         2.0         6142.90         1906.40         0.00         5.23           9243.70         1         1         100.0         50         4         8.0         9243.70         1338.90         0.00         4.26           2601.70         1         1         100.0         50         3         4         8.0         9243.70         1332.10         0.00         4.26           12665.00         1         1         100.0         50         12         24.0         12665.00         220.50         0.00         4.27           9243.70         1         1         100.0         50         3         6.0         2643.70         21.34.30         0.00         4.27	2563.00         1         16.0         2563.00         1916.90         0.00         5.23           6142.90         1         1         100.0         50         8         16.0         2563.00         1916.90         0.00         3.28           9243.70         1         1         100.0         50         1         2.0         6142.90         1909.40         0.00         3.28           2601.70         1         1         100.0         50         12         2.0         138.90         0.00         4.26           12601.70         1         1         100.0         50         12         2.4         138.90         0.00         4.26           12601.70         1         1         100.0         50         12         2.4         1320.0         0.00         4.27           9243.70         1         1         100.0         50         1         2.4         2.6         3.6         3.24         3.2           25.0         1         1         100.0         50         1         2.4         5.0         8.0         9.2         1.2         4.0         1.2         3.0         0.00         3.2         4.0         2.5	2563.00         1         100.0         50         8         16.0         2563.00         1916.90         0.00         5.23           6142,90         1         100.0         50         4         8.0         243.70         1918.90         0.00         3.26           2601,70         1         100.0         50         1         2.0         6142,90         1908,40         0.00         4.26           2601,70         1         100.0         50         12         2.0         6142,90         1908,40         0.00         4.26           2601,70         1         100.0         50         12         2.0         6142,90         1908,40         0.00         4.26           2601,70         1         100.0         50         12         2.0         2243.70         1343,90         0.00         4.26           2601,70         1         1         100.0         50         12         2.40         9.243.70         1344         9.25           250         1         1         1         2         2.2         2.2         3.0         4.0         4.2           250         1         1         2         2         2.5         2.2<		15126.0		-		0.001	20	2 2	100.0	15126.05	988.90	000	2.57	1000
2563.00         1         1         100.0         50         8         16.0         2563.00         1916.90         0.00         5.23           6142.90         1         1         100.0         50         1         2.0         6142.90         1908.40         0.00         5.23           9242.30         1         1         100.0         50         4         8.0         9243.70         1338.90         0.00         4.26           2601.70         1         1         100.0         50         3         5         1.265.00         1322.10         0.00         4.27           12605.00         1         1         100.0         50         12         24.0         1265.00         0.00         4.27           9243.70         1         1         100.0         50         3         6.0         9243.70         2134.30         0.00         4.27	2563.00         1         100.0         50         8         16.0         2563.00         1916.90         0.00         5.22           2463.00         1         100.0         50         4         8         16.0         2563.00         1916.90         0.00         4.25           2443.90         1         1         100.0         50         4         8.0         9243.70         1138.10         0.00         4.25           12663.00         1         1         100.0         50         4         8.0         9243.70         1138.10         0.00         4.27           12663.00         1         1         100.0         50         12         24.0         1246.30         0.00         4.27           12663.00         1         1         100.0         50         12         24.0         124.0         0.00         4.27           12663.00         1         1         100.0         50         1         2.2         6.0         0.00         4.27           12663.00         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1	255.00         1         100.0         50         8         16.0         2563.00         1916.90         0.00         5.23           614.20         1         1         100.0         50         1         2.0         6142.30         1916.90         0.00         3.26           9243.70         1         1         100.0         50         4         8.0         9243.70         1338.90         0.00         4.27           12661.70         1         1         100.0         50         12         2.0         6142.30         0.00         3.25           12661.70         1         1         100.0         50         12         2.40         1338.90         0.00         3.25           12661.70         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         2         1         1         1         1         1         1         2         1         1         1         1         1         1         1         1         1         1         1         1	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS													
6142.90         1         1         100.0         50         1         2.0         6142.90         1999.40         0.00         3.26           2943.70         1         1         100.0         50         4         8.0         9243.70         1383.90         0.00         4.26           2601.70         1         1         100.0         50         12         24.0         1352.10         0.00         4.26           12665.00         1         1         100.0         50         12         24.0         12665.00         2220.50         0.00         4.27           9243.70         1         1         1         1         1         0.00         3.3         4	6142.90         1         100.0         50         1         2.0         6142.90         1909.40         0.00         3.26           2943.70         1         1         100.0         50         4         8.0         9243.70         1138.90         0.00         4.26           2943.70         1         1         100.0         50         12         24.0         1284.30         0.00         4.26           12665.00         1         1         100.0         50         12         24.0         1282.10         0.00         4.26           243.70         1         1         100.0         50         12         24.0         1264.30         0.00         4.27           25.20         1         1         100.0         50         11         22.0         2124.30         0.00         4.27           25.20         1         1         100.0         50         11         22.0         25.0         3.0         4.27           25.20         1         1         100.0         50         4         8.0         2.5.0         8.0         2.61           25.0         1         1         100.0         50         4         8	6142,90         1         100,0         50         1         2,0         6142,90         1909,40         0,00         3.26           2604,30         1         1         100,0         50         4         8,0         9243,70         1389,90         0,00         4,26           2604,30         1         1         100,0         50         12         24,0         1349,90         0,00         4,26           12605,00         1         1         100,0         50         12         240,70         1349,90         0,00         4,26           12605,00         1         1         100,0         50         12         240,0         1349,90         0,00         4,26           252,0         1         1         100,0         50         11         22,0         250,0         80         4         8         250,0         80         1,93           500         1         1         100,0         50         12         24,0         520,0         80         1,93           500         1         1         100,0         50         12         25,0         80         1,93           500         1         1         100,0 <td>ug/kg 1</td> <td>2563.0</td> <td></td> <td>-</td> <td>-</td> <td>0.001</td> <td>20</td> <td>60</td> <td>16.0</td> <td>2563.00</td> <td>1916.90</td> <td>0.00</td> <td>5.23</td> <td>17.7</td>	ug/kg 1	2563.0		-	-	0.001	20	60	16.0	2563.00	1916.90	0.00	5.23	17.7
2601.70         1         100.0         50         3         6.0         2601.70         1352.10         0.00         3.25           12605.00         1         1         100.0         50         12         24.0         12465.0         2220.50         0.00         4.27           9243.70         1         1         1         100.0         50         3         6.0         9243.70         2124.30         0.00         3.44	2601.70         1         100.0         50         3         6.0         2601.70         1532.10         0.00         3.25           12605.00         1         1         100.0         50         12         24.0         1532.10         0.00         3.25           9243.70         1         1         1         100.0         50         12         24.0         1266.50         0.00         4.77           25.20         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1	2601.70         1         1000         50         3         60         2601.70         1532.10         0.00         3.25           12605.00         1         1         100.0         50         12         24.0         1532.10         0.00         3.25           9243.70         1         1         1         100.0         50         12         24.0         12605.00         0.00         4.27           25.20         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1	ug/kg 1	6142.9				100.0	0 S	- 4	2.0	6142.90	1338.90	0.00	3.26	2.9
9243.70 1 1 100.0 50 3 6.0 9243.70 2124.30 0.00 3.44	25.20         1         100.0         50         1         6.0         9243.70         2124.30         0.00         3.44           25.20         1         100.0         50         11         22.0         5.30         0.00         2.67           25.0         1         100.0         50         11         22.0         5.30         0.00         2.67           25.0         1         100.0         50         19         38.0         5.00         1.93           25.0         1         100.0         50         12         2.50         8.00         1.93           25.0         1         100.0         50         12         2.50         8.00         1.93           25.0         1         100.0         50         12         2.50         8.00         1.93           25.0         1         100.0         50         12         2.50         8.00         1.93           25.0         1         100.0         50         21         44.0         9.20         0.00         2.54           10.0         1         100.0         50         21         42.0         6.70         0.00         2.54	25.20         1         100.0         50         1         6.0         9243.70         2124.30         0.00         3.44           25.20         1         100.0         50         11         22.0         530         0.00         2.67           5.00         1         100.0         50         11         22.0         530         0.00         2.67           5.00         1         100.0         50         19         38.0         5.00         8.80         0.00         2.67           5.00         1         100.0         50         19         38.0         5.00         8.90         0.00         2.67           5.00         1         100.0         50         12         2.40         5.00         1.93           5.00         1         100.0         50         22         44.0         5.00         6.80         0.00         2.41           6.70         6.70         6.80         0.00         2.24         44.0         9.20         6.80         0.00         2.28           10.10         1         100.0         50         22         44.0         9.20         6.80         0.00         2.20           10.	ue/kg 1	2601.7	М			100.0	200	m ç	0.9	2601.70	1352.10	000	3.25	00 Y
	25.20         1         100.0         50         11         22.0         55.20         53.0         0.00         2.67           5.00         1         1         100.0         50         19         38.0         5.00         6.70         4.39           2.50         1         1         100.0         50         4         8.0         2.50         390         0.00         1.93           2.50         1         1         100.0         50         4         8.0         2.50         390         0.00         1.93           9.20         1         1         100.0         50         12         24.0         5.00         5.00         1.93           9.20         1         1         100.0         50         22         44.0         9.20         6.50         0.00         2.41           18.50         1         1         100.0         50         2         18.50         6.70         6.80         0.00         2.21           10.10         1         1         100.0         50         3         18.50         4.70         0.00         2.22           10.10         1         1         100.0         50	25.20         1         100.0         50         11         22.0         53.0         6.00         2.67           5.00         1         1         100.0         50         19         38.0         5.00         6.70         4.39           2.50         1         1         100.0         50         12         2.50         39.0         0.00         2.67           2.50         1         1         100.0         50         12         2.60         3.90         0.00         1.93           2.50         1         1         100.0         50         12         2.60         3.90         0.00         1.93           9.20         1         1         100.0         50         21         44.0         9.20         6.70         0.00         2.54           10.10         1         1         100.0         50         21         42.0         6.70         6.80         0.00         2.54           10.08.40         1         1         100.0         50         32         64.0         10.04         4.36         2.50           10.08.40         1         1         100.0         50         34         64.0         11		9243.7				100.0	20 00	3 6	9.0	9243.70	2124.30	0.00	3.4	8.8
	5.00         1         100.0         50         19         38.0         5.00         8.80         0.00         4.39           2.50         1         1         100.0         50         4         8.0         2.50         3.90         0.00         1.93           5.00         1         1         100.0         50         22         44.0         5.00         5.00         2.41           9.20         1         1         100.0         50         22         44.0         9.20         6.50         0.00         2.41           18.50         1         1         100.0         50         21         42.0         6.80         0.00         2.58           10.10         1         1         100.0         50         21         42.0         6.80         0.00         2.58           10.10         1         1         100.0         50         32         64.0         10.40         0.00         2.22           25.40         1         1         100.0         50         34         64.0         10.40         0.00         4.58           25.40         1         1         100.0         50         34         64.0 <td>500         1         100.0         50         19         38.0         500         88.0         0.00         4.39           250         1         1         100.0         50         4         8.0         2.50         3.90         0.00         1.93           500         1         1         100.0         50         22         44.0         5.00         5.00         0.00         2.41           9.20         1         1         100.0         50         22         44.0         9.20         6.50         0.00         2.41           18.50         1         1         100.0         50         21         42.0         6.70         6.00         2.41           10.10         1         100.0         50         2         44.0         9.20         6.50         0.00         2.28           10.10         1         100.0         50         3         64.0         10.10         4.90         0.00         2.52           10.10         1         100.0         50         34         64.0         114.10         0.00         2.72           59.70         1         1         100.0         50         25         50.0</td> <td>ug/kg 1</td> <td>25.2</td> <td></td> <td>-</td> <td>-</td> <td>100.0</td> <td>90</td> <td>=</td> <td>22.0</td> <td>25.20</td> <td>5.30</td> <td>00:00</td> <td>2.67</td> <td>26.5</td>	500         1         100.0         50         19         38.0         500         88.0         0.00         4.39           250         1         1         100.0         50         4         8.0         2.50         3.90         0.00         1.93           500         1         1         100.0         50         22         44.0         5.00         5.00         0.00         2.41           9.20         1         1         100.0         50         22         44.0         9.20         6.50         0.00         2.41           18.50         1         1         100.0         50         21         42.0         6.70         6.00         2.41           10.10         1         100.0         50         2         44.0         9.20         6.50         0.00         2.28           10.10         1         100.0         50         3         64.0         10.10         4.90         0.00         2.52           10.10         1         100.0         50         34         64.0         114.10         0.00         2.72           59.70         1         1         100.0         50         25         50.0	ug/kg 1	25.2		-	-	100.0	90	=	22.0	25.20	5.30	00:00	2.67	26.5
25.20 1 1 100.0 50 11 22.0 25.20 5.30 0.00 2.67	5.00         1         100.0         50         12         24.0         5.00         5.00         5.00         5.13           9.20         1         1         100.0         50         22         44.0         9.20         6.50         0.00         2.41           9.20         1         1         100.0         50         22         44.0         9.20         6.50         0.00         2.41           18.50         1         1         100.0         50         21         42.0         6.70         6.80         0.00         2.28           10.10         1         1         100.0         50         8         16.0         10.10         4.90         0.00         2.20           10.84         1         1         100.0         50         32         64.0         104.0         4.90         0.00         2.22           25.40         1         1         100.0         50         34         64.0         114.10         0.00         2.72           25.70         1         1         100.0         50         16         39.40         111.10         0.00         2.72           25.70         1         1 <t< td=""><td>5.00         1         100.0         50         12         24.0         5.00         5.00         5.13           9.20         1         1         100.0         50         12         24.0         5.00         5.00         5.13           9.20         1         1         100.0         50         22         44.0         9.20         6.50         0.00         2.41           18.50         1         1         100.0         50         21         44.0         9.20         6.50         0.00         2.41           10.10         1         1         100.0         50         21         4.0         4.00         0.00         2.58           10.10         1         1         100.0         50         32         64.0         10.11         0.00         2.52           20.00         1         1         100.0         50         32         64.0         114.10         0.00         2.72           20.00         1         1         100.0         50         16         32.0         59.70         114.10         0.00         2.72           20.00         1         1         100.0         50         18         30</td><td>ug/kg 1</td><td>5.0</td><td></td><td></td><td></td><td>100.0</td><td>S S</td><td>67</td><td>38.0</td><td>5.00</td><td>1 90</td><td>0.00</td><td>4.39</td><td>47.1</td></t<>	5.00         1         100.0         50         12         24.0         5.00         5.00         5.13           9.20         1         1         100.0         50         12         24.0         5.00         5.00         5.13           9.20         1         1         100.0         50         22         44.0         9.20         6.50         0.00         2.41           18.50         1         1         100.0         50         21         44.0         9.20         6.50         0.00         2.41           10.10         1         1         100.0         50         21         4.0         4.00         0.00         2.58           10.10         1         1         100.0         50         32         64.0         10.11         0.00         2.52           20.00         1         1         100.0         50         32         64.0         114.10         0.00         2.72           20.00         1         1         100.0         50         16         32.0         59.70         114.10         0.00         2.72           20.00         1         1         100.0         50         18         30	ug/kg 1	5.0				100.0	S S	67	38.0	5.00	1 90	0.00	4.39	47.1
25.20 1 1 100.0 50 11 22.0 25.20 530 0.00 2.67 2.00 1 1 100.0 50 19 38.0 5.00 8.80 0.00 4.39 2.00 1 1 1 100.0 50 19 8.8 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1.9 38 0 0.00 1	920         1         100.0         50         22         44.0         920         650         0.00         241           6.70         1         1         100.0         50         21         42.0         670         680         0.00         238           16.70         1         1         100.0         50         8         16.0         10.10         490         0.00         2.52           10.10         1         1         100.0         50         32         64.0         10.10         4.90         0.00         2.52           10.08.40         1         1         100.0         50         32         64.0         104.0         4.90         0.00         2.52           25.40         1         1         100.0         50         34         64.0         114.10         0.00         4.38           50.70         1         1         100.0         50         16         59.40         111.10         0.00         2.72           66.20         1         1         100.0         50         16         62.20         75.00         0.00         5.13           16.80         1         1         100.0 <t< td=""><td>9.20         1         100.0         50         22         44.0         9.20         6.50         0.00         241           6.70         1         1         100.0         50         21         42.0         6.70         6.80         0.00         2.58           18.50         1         1         100.0         50         21         4.0         6.70         6.80         0.00         2.58           10.10         1         1         100.0         50         8         16.0         10.10         4.00         0.00         2.52           10.06         1         1         100.0         50         34         64.0         114.10         0.00         2.52           59.70         1         1         100.0         50         16         32.0         59.70         114.10         0.00         2.72           59.70         1         1         100.0         50         15         50.0         62.20         75.00         0.00         5.12           50.70         1         1         100.0         50         18         36.0         16.80         92.10         0.00         2.94           50.25         1</td><td></td><td>5.0</td><td></td><td></td><td></td><td>100.0</td><td>20 %</td><td>12</td><td>24.0</td><td>2.00</td><td>5.70</td><td>0.00</td><td>3.13</td><td>35.3</td></t<>	9.20         1         100.0         50         22         44.0         9.20         6.50         0.00         241           6.70         1         1         100.0         50         21         42.0         6.70         6.80         0.00         2.58           18.50         1         1         100.0         50         21         4.0         6.70         6.80         0.00         2.58           10.10         1         1         100.0         50         8         16.0         10.10         4.00         0.00         2.52           10.06         1         1         100.0         50         34         64.0         114.10         0.00         2.52           59.70         1         1         100.0         50         16         32.0         59.70         114.10         0.00         2.72           59.70         1         1         100.0         50         15         50.0         62.20         75.00         0.00         5.12           50.70         1         1         100.0         50         18         36.0         16.80         92.10         0.00         2.94           50.25         1		5.0				100.0	20 %	12	24.0	2.00	5.70	0.00	3.13	35.3
25.20         1         100.0         50         11         22.0         25.20         53.0         0.00         2.67           5.00         1         1         100.0         50         19         38.0         5.00         8.80         0.00         4.39           2.50         1         1         100.0         50         4         8         2.50         39.0         0.00         1.93           5.00         1         1         100.0         50         12         24.0         5.00         5.70         0.00         3.13	18.50         1         100.0         50         9         18.0         18.50         4.70         0.00         2.20           10.10         1         1         100.0         50         9         18.0         16.0         4.70         0.00         2.52           10.10         1         1         100.0         50         34         64.0         10.10         4.90         0.00         2.52           29.40         1         1         100.0         50         34         64.0         27.2         27.2           50.70         1         1         100.0         50         25         50.0         62.20         75.00         0.00         5.81           16.80         1         1         100.0         50         18         36.0         16.80         92.70         0.00         2.94	18.50         1         10.00         50         9         18.0         18.50         4.70         0.00         2.20           10.10         1         1         100.0         50         8         16.0         10.10         4.90         0.00         2.52           10.10         1         1         100.0         50         32         64.0         10.00         4.90         0.00         2.52           29.40         1         1         100.0         50         16         32.0         59.70         111.10         0.00         2.53           59.70         1         1         100.0         50         16         32.0         59.70         111.10         0.00         2.53           16.80         1         1         100.0         50         25         50.0         62.20         75.00         0.00         2.94           16.80         1         1         100.0         50         18         36.0         16.80         92.70         0.00         2.94           22.50         1         1         100.0         50         21         44.0         7.00         0.00         2.94           76.50         1	us/kg 1	9.2				0.001	20 00	22	42.0	9.20	6.80	0.00	2.41	55.9
25.20         1         100.0         50         11         22.0         25.20         53.0         0.00         2.67           5.00         1         1         100.0         50         19         38.0         5.00         8.80         0.00         4.39           2.50         1         1         100.0         50         19         38.0         5.00         1.93           5.00         1         1         100.0         50         12         24.0         5.00         5.70         0.00         3.13           6.70         1         1         100.0         50         22         44.0         9.20         6.50         0.00         2.41           6.70         1         1         100.0         50         22         42.0         6.70         680         0.00         2.41	10.10   1   100.0   50   8   16.0   10.10   4.90   0.00   2.52     1008.40   1   1   100.0   50   3.2   64.0   1008.40   114.10   0.00   4.58     29.40   1   1   100.0   50   3.4   64.0   2.70   11.10   0.00   2.72     59.70   1   1   100.0   50   2.5   50.0   62.20   75.00   0.00   3.13     62.20   1   1   100.0   50   18   36.0   16.80   92.70   0.00   2.94     16.80   1   1   100.0   50   18   36.0   16.80   92.70   0.00   2.94	10.10   1   1   100.0   50   8   16.0   10.10   4.90   0.00   2.52     10.10   1   1   100.0   50   3.2   64.0   10.04   0.10   4.38     29.40   1   1   100.0   50   16   32.0   59.70   144.10   0.00   3.13     59.70   1   1   100.0   50   16   32.0   59.70   84.40   0.00   3.13     62.20   1   1   100.0   50   18   36.0   16.80   92.70   0.00   5.81     62.80   1   1   100.0   50   21   44.0   75.50   0.00   5.94     76.50   1   1   100.0   50   21   42.0   76.50   0.00   5.95     76.50   1   1   100.0   50   21   42.0   76.50   0.00   2.96     76.50   1   1   100.0   50   21   42.0   76.50   0.00   2.96     76.50   1   1   100.0   50   21   42.0   76.50   7.00   0.00   2.96     76.50   1   1   1   1   1   1   1   1   1		18.5		-	-	100.0	20	0	18.0	18.50	4.70	00.00	2.20	23.5
25.20         1         100.0         50         11         22.0         25.20         5.30         0.00         2.67           5.00         1         1         100.0         50         4         8.0         5.00         880         0.00         4.39           2.50         1         1         100.0         50         4         8.0         2.50         390         0.00         1.93           5.00         1         1         100.0         50         4         8.0         2.50         390         0.00         1.93           9.20         1         1         100.0         50         12         24.0         5.00         5.70         0.00         2.41           6.70         1         1         100.0         50         22         44.0         6.70         6.00         2.41           18.50         1         1         100.0         50         9         18.0         18.50         4.70         0.00         2.28	29.40         1         100.0         50         34         68.0         29.40         11.10         0.00         2.72           89.70         1         100.0         50         16         32.0         59.70         84.40         0.00         2.72           82.20         1         100.0         50         16         36.0         62.20         75.00         0.00         58.1           16.80         1         100.0         50         18         36.0         16.80         92.70         0.00         2.94	29,40         1         100.0         50         34         64.0         29,40         11 10         0.00         272           59,70         1         1         100.0         50         16         32.0         59,70         144.0         0.00         272           62,20         1         1         100.0         50         25         50,0         62,20         75,00         0.00         5.81           16,80         1         1         100.0         50         18         30,0         16,80         92.70         0.00         5.94           23.50         1         1         100.0         50         22         44.0         23.50         14.80         0.00         5.94           76,50         1         1         100.0         50         22         44.0         23.50         14.80         0.00         5.94           76,50         1         1         100.0         50         21         42.0         76.50         7.00         0.00         2.94	ug/kg 1	1008.4				100.0	20 00	32	0.40	10.10	114.10	0.00	2.52	L'11 67.7
25.20         1         100.0         50         11         22.0         25.20         5.30         0.00         2.67           5.00         1         1         100.0         50         19         38.0         5.00         8.0         2.57         6.70         6.79         4.39           2.50         1         1         100.0         50         12         24.0         5.00         1.93         9.00         1.93           5.00         1         1         100.0         50         12         24.0         5.00         5.70         0.00         1.93           9.20         1         1         100.0         50         12         24.0         5.00         5.00         1.43           18.50         1         1         100.0         50         22         44.0         9.20         6.80         0.00         2.41           18.50         1         1         100.0         50         2         18.0         18.5         4.70         0.00         2.20           10.00         5         2         4         1         100.0         50         2         10.0         2.22           10.00         5	59.70         1         1         100.0         50         16         32.0         59.70         84.40         0.00         3.13           62.20         1         1         100.0         50         25         50.0         62.20         75.00         0.00         5.81           16.80         1         1         100.0         50         18         36.0         16.80         92.70         0.00         2.94	59.70         1         1         100.0         50         16         32.0         59.70         84.40         0.00         3.13           62.20         1         1         100.0         50         25         50.0         62.20         75.00         0.00         5.81           16.80         1         1         100.0         50         18         3.0         15.00         0.00         5.94           23.50         1         1         100.0         50         21         44.0         23.50         14.80         0.00         5.94           76.50         1         1         100.0         50         21         42.0         76.50         7.00         0.00         2.96		29.4			. –	100.0	20	35	0.89	29.40	11 10	0.00	2.72	73.5
25.20         1         100.0         50         11         22.0         25.20         53.0         0.00         2.67           5.00         1         1         100.0         50         19         38.0         5.00         8.0         4.39           2.50         1         1         100.0         50         12         24.0         5.00         3.90         0.00         1.39           5.00         1         1         100.0         50         12         24.0         5.00         5.00         1.33           9.20         1         1         100.0         50         22         44.0         5.00         5.00         2.41           6.70         1         1         100.0         50         22         44.0         5.00         6.00         2.41           18.50         1         1         100.0         50         22         42.0         6.70         6.00         2.41           18.50         1         1         100.0         50         8         16.0         114.10         0.00         2.28           10.10         1         1         100.0         50         34         64.0         104.0 <td>16.80 1 1 100.0 50 18 36.0 16.80 92.70 0.00 2.94</td> <td>16.80         1         1         100.0         50         18         36.0         16.80         92.70         0.00         2.94           23.50         1         1         100.0         50         22         44.0         23.50         14.80         0.00         5.02           76.50         1         1         100.0         50         21         42.0         76.50         7.00         0.00         2.96</td> <td></td> <td>59.7</td> <td></td> <td></td> <td></td> <td>100.0</td> <td>20 00</td> <td>16</td> <td>32.0</td> <td>59.70</td> <td>75.00</td> <td>0000</td> <td>3.13</td> <td>41.2</td>	16.80 1 1 100.0 50 18 36.0 16.80 92.70 0.00 2.94	16.80         1         1         100.0         50         18         36.0         16.80         92.70         0.00         2.94           23.50         1         1         100.0         50         22         44.0         23.50         14.80         0.00         5.02           76.50         1         1         100.0         50         21         42.0         76.50         7.00         0.00         2.96		59.7				100.0	20 00	16	32.0	59.70	75.00	0000	3.13	41.2
25.20         1         100.0         50         11         22.0         53.0         0.00         2.67           5.00         1         1         100.0         50         19         38.0         5.00         8.0         0.00         2.67           2.50         1         1         100.0         50         4         8.0         2.50         390         0.00         1.93           2.50         1         1         100.0         50         12         24.0         5.00         5.00         1.93           9.20         1         1         100.0         50         22         24.0         5.00         5.00         2.41           6.70         1         1         100.0         50         22         44.0         9.20         6.80         0.00         2.41           18.50         1         1         100.0         50         9         18.5         4.70         0.00         2.20           10.10         1         1         100.0         50         3         16.0         4.90         0.00         2.52           29.40         1         1         100.0         50         34         66.0		23.50 1 1 100.0 50 22 44.0 23.50 14.80 0.00 5.02 76.50 1 1 100.0 50 21 42.0 76.50 7.00 0.00 2.96		16.8		-		100.0	20	80	36.0	16.80	92.70	000	2.94	4.1

# Sub-Appendix A-25

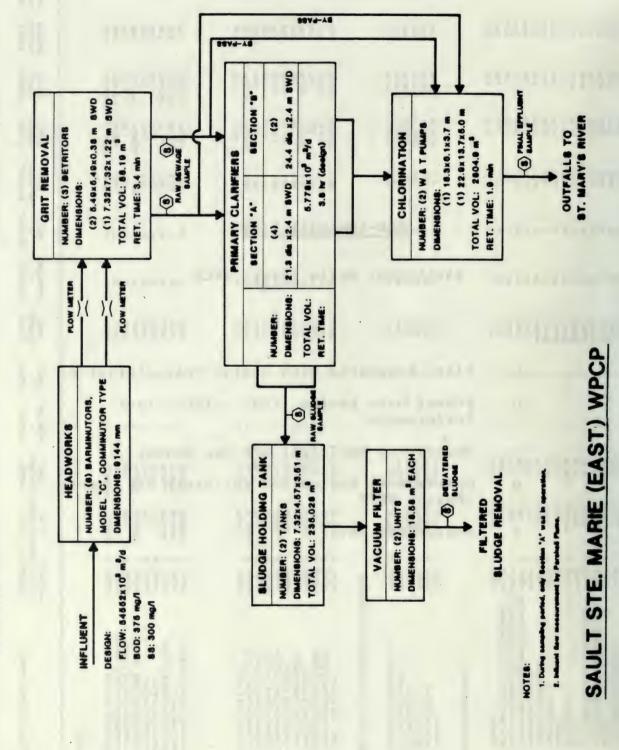
Sault Ste. Marie (East) WPCP

### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal STP Raw Sewage
- Operational Evaluation for Sault Ste. Marie (East)- WPCP
- o Analytical Data

(KIR18/28A)

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SAULT STE. MARIE MPCP Primary Capacity - 54.552 18(3)m3/day

PARAMETER	1981	1982	1983	1984	1985	15 YEAR LAVERAGE 11981 - 85
Avg. Daily Flow (1808 m3/day)	48.28	51.10	46.93	45.98	58.28	48.58
BOD5 - Influent (mc/L)	135.67	130.44	149.83	158.88	137.58	142.30
BOD5 - Effluent (mg/L) Annual BOD5 Significantly	78.48	79.50	74.64	83.14	83.23	76.48
Different from Mean Annual Average BOD5?	N	N	N	N	×	
TSS - Influent (eg/L)	155.13	158.82	145.85	165.42	168.92	157.23
TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean	53.98	54.71	53.78	61.78	59.96	56.84
Annual Average TSS?	2 5 1 1	i N	l N	N	N	1
Total P - Influent (mg/L)	5.13	4.68	6.26	6.24	5.00	5.47
Total P - Effluent (mg/L) Annual TP Significantly Different from Mean	3.15	3.88	4.18	4.61	4.23	3.86
Annual Average TP?	N	H	N	Ж	N	1
TP in Compliance?	N	i N	N	N .	i N	N

I.D. - Insufficient Data

### SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

### GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE	SAULT STE. 110000640 PRIMARY	MARIE WPCP
DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	54.552 41.755 75000	
% OF TOTAL FLOW ATTRIBUTED TO:		
INDUSTRIAL SOURCES (%)	26	
COMMERCIAL SOURCES (%) (Population x 0.0757)	14	Van harrie
RESIDENTIAL SOURCES (%) (Population x 0.175)	31	
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from industrial, commercial and residential sources)	N 29	
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	137 31 30	
DECORTRETON OF MUE MOD F TURNISHDING	DICOURDON	O MO MILE MOCO

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	SIC # COM	F PANIES
METAL FINISHING	3411-3469	11
PULP, PAPER, PAPERBOARD	2600-2631	1
BEVERAGES	2082-2087	2
TIMBER PRODUCTS	2411-2499	13
IRON AND STEEL	3300-3317	1

SAULT STE. MARIE EAST WPCP

TREATMENT FACILITY: Primary

PERIOD ENDING: March 22,1987
SAMPLING SEASON: Winter (Cold Weather)
DESIGN AV6 FLOW: 54,552 m3/d

:				PRE-SAM	PLING PERI	OD		
B	1 1111111111111111111111111111111111111	DAY 1					DAY 6 :	
			,				:	
-	RAW SEWAGE FLOW	24,600	23,900	23,100	29,400	33,600	50,300	43,800
9 8 2 0	% of Design Flow	45.091	43.812	42.342	53.891	61.59%	92.21%	
	Influent BOD (mg/L)			179 :				
	Primary BOD (mg/L) : Secondary BOD (mg/L) :	1	1	62 :	1	1	:	
2 16 5 16	Z PRIMARY REMOVAL :	1	1	65.2	9 9 3	. !	1 1	
	Influent SS (ag/L)			220			;	
9 2	Primary SS (mg/L) : Secondary SS (mg/L) :	1 2	1	1	4	1	1 1	
8 8	Z PRIMARY REMOVAL	3 3	3 8 3	82.7	3 3	1	3	
	Influent NH4 (mg/L)							
8 8	Primary NH4 (mg/L) : Secondary NH4 (mg/L) :		:	;	1	:	9	
3-3-	Z PRIMARY REMOVAL	1	1	1	1	1	3 5	
; ;	I SECONDARY REMOVAL							
8	Influent TKN (mg/L) Primary TKN (mg/L)	1	1	1	1	1	2 3	
3 3	Secondary TKN (mg/L)	,		1	1	1	3 3	
2 2	7 PRIMARY REMOVAL	1	1	1	i	1	1 2	
!	I SECONDARY REMOVAL				!	!		
2	Influent Total P (mg/L)	2	1	5.4	1	1	1 1	
1	Primary Total P (mg/L) :	9 8	1	3.7 !	å 1	1	2 8	
	Secondary Total P (mg/L) : % PRIMARY REMOVAL :	1	1	77.0.1	1	1	8	
1	Z SECONDARY REMOVAL	9	i	32.0 !	i	i	1	

SAULT STE. MARIE EAST (OLD)

TREATMENT FACILITY: Primary

PERIOD ENDING: March 22,1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 54,552 #3/d

!					P	RE-SA	MPLING PER	HOD		1
; ; ;==	PARAMETER	l DA	Y 8 1	DAY 9	: DAY	10 ;	DAY 11	DAY 12	DAY 13 +	
-	RAN SEWAGE FLOW	; 31	,700 :	29,800	: 27,	300 ;	27,400	26,000	26,400	
***	% of Design Flow	1 5	8.11%	54.63	z: 50	.042	50.23%	47.66%	48.392	51.88%
	Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL	***************************************					182 i 72 i 60.5			; ; ;
	Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL	8 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			1		148 40 73.0			; ; ;
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1								1
	Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL	2 2 2 2 2 2 2 2 2 2 2 2 2 3 2 3 4 4 4 4			-					
	Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL						4.9 3.3 32.7			1

SAULT STE. MARIE EAST (OLD)

TREATMENT FACILITY: Primary

PERIOD ENDING:

March 22,1987

SAMPLING SEASON: Winter (Cold Weather) DESIGN AVE FLOW:

54,552 m3/d

				SAM	PLINE	PERIO	D			
PARAMETER	DAY 15	; D	AY 16	DAY 17	DAY	18 :	DAY 19 ;	DAY 20	DAY	21
RAN SEWAGE FLOW	29,50	0 :	32,500	32,500	35	,200	35,000	36,600	39	,300
% of Design Flow	54.0	8%:	59.58%	59.58%	6	4.531	64.162	67.092	7:	2.04%
Influent BOD (ag/L)		;		134		¦				
Primary BOD (mg/L) Secondary BOD (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		65.9		3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	9 9 9 1 1 9			
Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL				116 27 76.7		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1			
Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL						2 2 2 3 8 8 8 3 3 9	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL							;			
Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L)		:		4.1			i			
7 PRIMARY REMOVAL 7 SECONDARY REMOVAL	1	;		100.0		2	1	1		

PLANT NAME: Sault St. Maric (East) PLANT TYPE: Primary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

Control   Cont					
Contrainant   Name	GLOBAL % PREV	100.0 100.0 100.0 100.0 100.0 100.0	97.3 97.1 100.0 100.0 100.0 83.8 75.7	86.5 7.7.7 2.7.7 3.7.8 3.7.8 3.7.8 10.8 10.8 10.8	94.6 43.2 18.9 21.6 100.0 10.8
CONTAMINATY NAME	GLOBAL SPREAD FACTOR	1.83 1.84 1.69 1.69 1.05 1.05	265 228 211 214 231 255	345 246 246 138 139 129 129 143 143	2.28 3.14 1.50 1.42 3.72
Action   Continues   Continu	PLANT SPREAD FACTOR	1.29 1.32 1.06 1.07 1.08 1.49	1.55 0.00 1.61 1.07 1.23 1.46	1,72 2,75 2,04 2,74 2,10 2,51 2,51 2,47 2,43 2,65 2,65	211 719 267 290 325 1.86
STEPPONTAL   STEPPONTAL   STANLE   ST	GLOBAL GEO. MEAN	140.23 287.75 22.39 15.37 25.44 6.90 5.18	1000.10 110.60 0.23 370.70 211.00 9.30	25.59 14.52 1.54 2.09 2.09 5.09 5.03 5.03 5.03 5.03 5.03 5.03 5.03 5.03	0.02 0.08 0.01 0.01 0.01
Note   Contaminant Name   Cont	PLANT GEO. MEAN	101.16 142.87 29.92 13.29 19.38 6.72 3.71 68.38	530.00 50.00 0.18 170.00 170.00 10.00	7131 1559 1031 785 1045 620 744 749 745 1932	0.02 0.03 0.02 0.05 0.01
CODETAMINATE NAME	GLOBAL % FREQ. DET.	99.6 100.0 100.0 100.0 99.6 99.6	95.0 98.0 99.7 25.5 25.5	60.7 42.9 0.4 4.0 0.7 4.0 0.4 4.0 0.7 4.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	51.8 17.0 5.8 3.6 77.5 2.2
CONTAMINANT NAME	GLOBAL # DET	266 273 273 273 273 266	306 48 274 315 82 82 82	167 188 100 100 100 100 100 100 100 100 100	143 47 16 10 214 6
Note	GLOBAL # \$AMPLES	267 271 273 273 278 248	322 49 49 319 322 321	33 33 33 33 33 33 33 33 33 33 33 33 33	276 276 276 276 276 276
Main	PLANT % FREQ. DET.	100.0 100.0 100.0 100.0 100.0 100.0	100.0 100.0 100.0 100.0 33.3 16.7	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.00 0.04 0.00 0.00 0.00
CONTAMINANT NAME	PLANT # DET.	<i>.</i>	0 - N 0 0 N -	8 8	m m M M M
STATIONALS	PLANT # SAMPLES	N N N N N N N O N	0 - N 0 0 0 0	<b>અઅઅઅઅઅઅઅઅઅ</b>	אין
STATIONALS	PLANT MAX. DET. CONC.	133.00 222.00 56.80 14.70 21.00 6.81 4.09	790.00 50.00 0.41 190.00 240.00 10.00 20.00	160.00 57.60 36.90 36.90 14.60 33.60 33.30 110.20	0.05 0.06 0.09 0.25 0.04
ENTIONALS  BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGENDON THE CONTAMINANT NAME  CHEMICAL OXYGENDON THE CALLONIC CARBON THE CALLONIC	PLANT AIN, CONC.	75.20 104.00 16.00 17.50 6.57 3.33	240.00 50.00 0.13 160.00 130.00 10.00 20.00	37.70 37.90 36.90 39.40 14.60 33.60 33.60 33.60 33.60 33.60 33.60 33.60 33.60 33.60	0.03 1.80 0.06 0.05 0.10
CONTAM. CONTAMINANT NAME  BODS  BOD, 5 DAY TOTAL DEMAND  COD CHEMICAL OXYGEN DEMAND  DOC CHEMICAL OXYGEN DEMAND  NOTICE RESIDER, PARTICULATE  RESIDER, PARTICULATE  ALUT COPPER, UNPELTIOTAL  COUT COPPER, UNPELTIOTAL  ZNUT COPPER, UNPELTIOTAL  ZNUT COPPER, UNPELTIOTAL  ZNUT COMPALITIONAL  COUT COMPALITIONAL  ZNUT COMPALITIONAL  AGUT STRONTHUM, UNPELTIOTAL  AGUT STRONTHUM, UNPELTIOTAL  ZNUT COMPALITIONAL  STRONTHUM, UNPELTIOTAL  ZNUT COMPALITIONAL  STRONTHUM ON THE TOTAL  AGUT STRONGHIM ON THE TOTAL  BABBE  PRINGE  PRINGE	CODE N			UNDS	
CONTAM- INANT BODS COD DOC DOC		BOD, 5 DAY -TOTAL DEMAND CHEMICAL, OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL PLT, REAC. NITROGEN-TOT-KJEL, UNP. TOT (-LOGGH-COUNCN)) PHOSPHORUS, UNPILT. TOTAL RESIDUE, PARTICULATE	ALJMINUM,UNFILT.TOTAL COPPER,UNFILT.TOTAL STRONTUM,UNFILT.TOTAL ZINC,UNFILT.TOTAL COBALT,UNFILT.TOTAL SUNC,UNFILT.TOTAL	HEAL AND ACID EXTRACTABLE COMPORMACRESOL PHENOL 2, EDINITROTOL JENE BIS(2, CHADPETTOXY)AETHANE BIS(2, CHADPETTOXY)AETHANE BIS(2, CHADPETTOXY)AETHANE BUTTLBENZYLAFROPTLAMINB BENZOKA)ANTHENE PHUNDANTHENE PHENZOK(A)ATHENE	ES, HER BICIDES, PCBS  GAMMA-BHC(HEXCHLORCYCLHEXANE) METHOXYCHLOR ALPHA-BHC(HEXCHLORCYCLHEXANE) ENDOSUIPAN H ENDOSUIPAN H MIREX
	CONTAM	BODS BODS COD DOC NNHTR NNTKUR H PHU PRU RSP	METALS ALUT CUUT HGUT SRUT ZNUT COUT AGUT	BASE NEI PAMACRE PAMACRE PAMAGNT PAMAGNT PAMAGNT PAMAGNT PAMANP PANANP	PESTICID PIBHCG PIDMDT PIBHCA PIEND2 P324D PIMRX

		PLANT	TYPE	PLANT NAME :Sault St. PLANT TYPE :Primary	PLANT NAME :Sault St. Marie (East) PLANT TYPE :Primary	East)					SAS	SAMPLING TYP	5±2	: Final Emuer: Wet Weight	¥ .				
CONTAM- INANT	CONTAMINANT NAME	UNITS QC	2.3	QC STD. FOR CODE: SURFACE VATER	STD. REP.	FLANT PLANT MIN CONC. MAX. DEF. > DL CONC.	PLANT IAX. DET. CONC.	PLANT	PLANT DET.	PLANT S. FREQ. DET.	GLOBAL # SAMPLES	GLOBAL F DET.	GLOBAL S. FREQ. DET.	FLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL * PREV.	
CONVENTIONALS	IONALS																		
BODS COD DOC NNITTPR NNTKUR PH	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DIEMAND DISSOLVED ORCANIC CARBON AMMONIUM,TOTAL FILT REAC. NITROGEN-TOT-NEEL, UNF. TOT CLOCCHI-CONCN)	A SA SA	000000			61.40 86.00 13.00 10.90 16.50 6.70	98.80 146.00 44.80 113.70 20.30 6.84	*****	*********	100.0 100.0 100.0 100.0 100.0	3 3 3 3 3 3 3	333333	10000	79.35 106.35 18.27 17.27 17.97 6.79	48.40 108.54 12.80 10.46 15.36 6.88	128	202	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
RSP	RESIDUE, PARTICULATE PRENOLICS (4AAP)			0.00	ONT-MOB	34.00	39.50	. w w	N 64	100.0	40	36	1000	36.80	28.57		1.73		
METALS																			
ALUT	ALUMINUM, UNFILTTOTAL COPPIS, UNFILTTOTAL MERCURY, UNFILTTOTAL GTBOATHIM, INFILTTOTAL	3333		5.00 0.20 0.20	ONT-MOB ONT-MOB ONT-MOB	10.00	0.00	0 - n c	0 - v v	100.0	2 × 5 ×	34 - 84	95.8 97.4 97.9	0.00 10.00 0.10	350.00 18.20 0.05 304.90		3.45 1.85 2.42 2.83		
ZNUT CDUT CCNPUR AGUT MOUT	STRONT UND ALL ZUNC JUNET. TOTAL CADMIUM, UNFILT TOTAL CYANIDE-FREE, UNFILT REAC. SILVER, UNFILT TOTAL MOLYBDENUM, UNFILT TOTAL	33333	00000	30.00 0.20 5.00 0.10	ONT-MOB ONT-MOB ONT-MOB ONT-MOB	90.00 0.00 10.00 10.00	130.00 0.00 10.00 10.00	0 0 0 0 0 0 0	• • • • • • • • • • • • • • • • • • •	100.0 50.0 20.0 16.7	* * * 5 * *	*****	100.0 37.5 7.5 16.7 22.9	120.00 0.00 0.00 10.00	69.80 2.50 0.90 6.40 6.60	222	3.04 1.96 1.61 1.61	1000 85.7 42.9 57.1	
BASENEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	POUNDS																	
PMBBP PMMCRB PMPHEN PNNAPH	BUTYLBENZYLPHTHALATB M-CRESOL PHENOL NAPITHALENE	3333		1.00	NYS-GUL ONT-MOB NYS-STD	4.40 7.80 7.90 4.60	9.20 15.20 8.70 4.60	*****	<b>91 91 91 99</b>	100.0 60.0 40.0 20.0	3 3 3 3 3	80 80 VI VI	20.5 46.2 12.8 12.8	6.87 4.98 2.97 1.36	1.42 3.90 1.78 1.13	1.42 3.07 2.55 1.98	210 297 1.60 1.42	57.1 71.4 0 42.9 1 42.9	
PESTICIDI	PESTICIDES, HERBICIDES, PCBS														-				
PIBHCG PIDMDT PIBHCA PIBHCB P324D PIEND2	GAMMA-BHCGEKGILORCYCLJEXANE) METHOXYGILOR ALPIA-BHCGIEXGILORCYCLJEXANE) BETA-BIC (EXCHLORCYCLJEXANE) 24-DIGILOROPIENOXYAGETIC ACID ENDOSULFAN II	LNE) ULAL HE) ULAL D ULAL D ULAL	N	0.00 0.00 4.00 0.00 0.00 0.00	ONT-MOB ONT-MOB ONT-MOB ONT-MOB	0.02 1.00 0.03 0.01 0.06 0.06	0.09 1.30 0.05 0.02 0.09	का का का का का का	N M M M M M	100.0 60.0 40.0 40.0 20.0	444444	2762462	725 100 150 675 25	0.04 0.25 0.01 0.01 0.02 0.02	0.00 0.01 0.01 0.00 0.00	8.20 3.11 3.11 3.01 1.36	228 3.12 1.58 1.36 4.96	285.7 285.7 285.7 285.7 285.7	
VOLATILE	VOLATILES ORGANIC COMPOUNDS																		
XICHLO B2HBNZ B2MPXY B2OXYL	CH OROPORM ETHYL BENZENE M. AND P. XYLENES O-XYLENE	2222		0.20 70.00 50.00 100.00	NYS-STD ONT-MOB NYS-GUL ONT-MOB	3.10 2.20 3.30 4.10	4.60 2.20 3.30 4.10	~~~		20.0 20.0 20.0 20.0	88 88 88	. s	38 13 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	223 1.17 1.27 1.33	2.07	21111421171	272 203 3.42 3.05	28.6 28.6 28.5 28.5 3	

PLANT NAME: Sault Ste. Marie (East) PLANT TYPE: Primary

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight

CONTAM- INANT	CONTAM: CONTAMINANT NAME.	UNITSQA/QC PLAN' (DRY CODEMIN. CO WEIGHT) > DL	UNITSQA/QC PLANT (DRY CODEMIN. CONC. EIGHT) > DL	PLANT MAX. BET. CONC.	PLANT # SAMPLES	PLANT # DET.	FLANT FREQ.	GLOBAL. # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
CONVENTIONALS	JONALS								4						
COD NNITTPR NNTKUR PHI PHINOL PPUT RST RST	CHEMICAL OXYGEN DEMAND AMMONIUM, TOTAL PLITRIAC NITROGEN-TOT-KJEL, UNF.TOT (LOGGHE(CONCIN)) PHENOLICS (AAAP) PHOSPHORUS, UNPLIT.TOTAL RESIDUE, TOTAL.	DEKE O O UKKE O O O O UKKE O O O O O O O O O O O O O O O O O O	1368421.05 8163.74 36608.19 5.20 233.92 10385.96 8550.00 6580.00	136421.05 8163.74 3669.19 5.20 233.92 10385.96 8550.00 6580.00		~ ~ ~ ~ ~ ~ ~ ~	100.0 100.0 100.0 100.0 100.0 100.0	\$ 4 2 5 5 2 2 S	\$ 4 2 \$ 4 5 S S	100.0 97.9 100.0 100.0 100.0 100.0	1368421.05 8163.74 36608.19 5.20 233.92 10385.96 8550.00 6580.00	892221.45 5911.32 36897.85 6.03 . 82.34 20347.70 32783.51	000000000000000000000000000000000000000	3.19 4.59 2.98 1.10 3.54 4.43 1.81	100.0 100.0 100.0 100.0 100.0 100.0 100.0
METALS															
ALUT COUT CRUT CRUT CRUT INGUT PBUT SRUT	ALIMINUM, UNPILITOTAL. ARSENCO, UNPILITOTAL. CADMILM, UNPILITOTAL. CORPER, UNPILITOTAL. CORPER, UNPILITOTAL. ARRECURY, UNPILITOTAL. LEAD, UNPILITOTAL. STRONTUM, UNPILITOTAL. STRONTUM, UNPILITOTAL. ZINC, UNPILITOTAL.	2	4762.57 3.51 5.38 63.16 321.64 2.34 143.86 114.62 500.58	4762.57 3.51 5.38 63.16 321.64 143.86 114.62 500.58			100.0 100.0 100.0 100.0 100.0 100.0	2 2 2 2 3 2 2 2 2 2 3 4 2 2 2 2 3 4 3 4	2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	98.0 98.0 98.0 100.0 100.0 100.0	4762.57 3.51 5.38 63.16 321.64 2.34 143.86 114.62 500.58	9835.74 6.13 9.74 301.43 606.31 2.23 173.99 231.70 905.39	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	251 435 435 3.68 1.72 1.67 1.87 2.39	97.1 97.1 90.0 90.0 100.0 100.0 100.0
BASE NEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SGNDC								•					
PMBBP PMMCRH PMINUEN	BUTYLBENZYLMITHALATE M-CRESOL PIENOL	ugks 1 ugks 1 ugks 2	48701.80 549707.60 76491.20	48701.80 549707.60 76491.20			100.0 100.0 100.0	2 2 2	442	7.8 82.3 29.4	48701.80 549707.60 76491.20	3445.60 116847.30 7312.80	0000	2.25 12.16 3.00	11.8 85.3 38.2
PESTICIB	PESTICIDES, HERBICIDES, PCBS														
PIPCBT PIPPDT P324D P3SH.V X2124	PCB, TOTAL. PP DDI 24-DICHLOROPHENOXYACETIC ACID 511-VEX 1,2,4-TRICHLOROBENZENE.	ugks 3 ugks 3 ugks 3 ugks 3	128.70 105.30 3742.70 1169.60 35.10	128.70 105.30 3742.70 1169.60 35.10			100.0 100.0 100.0 100.0	* * * * *	40 23 17	78.4 11.8 74.5 45.1 33.3	128.70 105.30 3742.70 1169.60 35.10	88.70 16.40 93.20 47.30 9.30	0.00	3.18 2.27 6.50 3.40 4.06	79.4 17.7 82.3 85.9 41.2
VOLATIL	VOLATILE ORGANIC COMPOUNDS												189		
B2MPXY	M., AND P.XYI ENIS	ug/kg 1	5497.10	5497.10	lu ()	u II	100.0	15	16	31.4	5497.10	1345.90	0.00	3.86	41.2

	PLANT NAME PLANT TYPE	ME :	Sau	Sault Ste. Marie Primary	ie (East)					SAMPL	SAMPLING TYPE SAMPLE FORM		Treated Sludge Dry Weight			
CONTAMINANT NAME		UNITSQ (DRY C WEIGHT)	CODE TO	UNITSQA/QC PLANT (DRY CODE MIN. CONG. N EIGHT) > DL	MAX. DET. CONC.	PLANT  * SAMPLES	FLANT # DET.	% FREQ. DET.	GLOBAL # 8AMPLES	GLOBAL.	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
CONVENTIONALS																
CHEMICAL OXYGEN DEMAND	MAND	mg/kg		2863.64	2863.64	-		0.001	36	36	0.001	2863.64	508097.94	0.00	29.4	0.001
NITROGEN-TOT-KLEL, UNF. TOT (LOCKH+(CONCN))	101.	E A	00	09.9	09.9			100.0	47	47	100.0	09.9	7.17	0.00	1.09	100.0
PHENOLICS (4AAP)		mg/kg		26.70	26.70			0.001	49	4 4	1000	26 70	76638 67	0.00	3.14	67.9
RESIDUE, TOTAL	<b>X</b>	T S		176000.00	176000.00			0.001	9 9	2 9 9	100.0	176000.00	80434.04	8 8	3.23	100.0
						•	,	,								
ALUMINUM, UNFILT TOTAL	T.	ma/kg	0	391.42	391.42			100.0	200	50	0.001	391.42	10715.94	00.00	2.82	100.0
AKSENIC, UNFILL TOTAL		THE A		5.41	5.45	ma, pan		100.0	2 9	20	100.0	5.45	333.06	0.00	3.59	100.0
CONTRA UNFILT TOTAL	,	m s/kg		58.24	58.24			100.0	45	45	100.0	58.24	732.24	0.00	2.16	100.0
MERCURY, UNFILL TOTAL		me/kg		3.58	3.58			0.000	20	64	0 86	3.58	3.24	00:00	2.04	97.1
CLEAD UNFILT TOTAL		me/kg		10.23	1 70			0001	20	4 4	0.96	1.70	2.67	000	2.98	97.1
STRONFIUM, UNFILL TOTAL.	, <del>,</del>	Š Š	000	6.25	6.25			100.0	20 00	20 00	100.0	6.25	240.93	00.00	2.57	0.001
DIOXINS AND FURANS																
OCTACHLORODINENZODIOXIN	NIOXIN	ug/kg	-	4.50	4.50	-	-	0 001	49	26	53.1	4.50	7.10	0.00	3.84	64.7
PESTICIDES, HERBICIDES, PCBS																
ALPIA BHC(HEXCHLORCYCLIBEXANE) BEIA BHC (HEXCHLORCYCLIBEXANE) GAMMA-BHC(HEXCHLORCYCLIBEXANE)	CYCLIBXANE) YCLIBXANE) RCYCLIBXANE	E E E E	2	62.50 13.70 107.40	62.50 13.70 107.40	~~ ~		100.0	50 50 50	119	22.0 38.0 24.0	62.50 13.70 107.40	5.60 8.80 5.70	0.00	3.00	32.4 47.1 35.3
VOLATILE ORGANIC COMPOUNDS																
ETHYL BENZENE (C8H10) M., AND P.XYLENES		ueks 8 %		795.50	795.50		and and	100.0	20 80	42	30.0	195.50	816.00	0.00	5.59	32.4
O-XYLENE (C8H10)		ue/kg	-	528.40	528.40	-	_	100.0	20	4	28.0	528.40	\$23.50	0.00	4.05	92.4

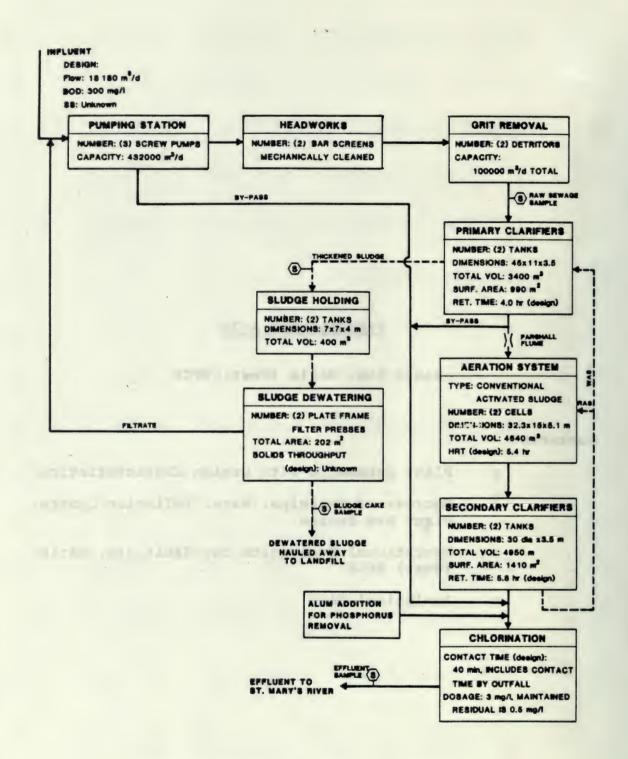
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# Sub-Appendix A-26

Sault Ste. Marie (West) WPCP

### Contents:

- o Plant Schematic with Design Characteristics
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- Operational Evaluation for Sault Ste. Marie (West) WPCP
- o Analytical Data



# SAULT STE. MARIE (WEST) WPCP

### SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP
WORKS NUMBER
TREATMENT TYPE
CONVENTIONAL ACTIVATED SLUDGE
PHOSPHORUS REMOVAL CONTINUOUS
18.180
1986 AVERAGE DAY FLOW (1000 m3/d)
POPULATION SERVED
SAULT STE. MARIE WEST WPCP
110002540
CONVENTIONAL ACTIVATED SLUDGE
PHOSPHORUS REMOVAL CONTINUOUS
18.180
9.106
17500

#### % OF TOTAL FLOW ATTRIBUTED TO:

INDUSTRIAL SOURCES (%	)	NOT 1	ESTIMATED
COMMERCIAL SOURCES (% (Population x 0.0757)	)		15
RESIDENTIAL SOURCES (Population x 0.175)	₹)		34
UNACCOUNTED FOR, INCI (100-% Contributed fr industrial, commercia residential sources)	om		52

PROFILE OF INDUSTRIES IN CATCHMENT
TOTAL NO OF INDUSTRIES NOT ESTIMATED
INDUSTRIES WITH WATER
NO OF SIC CATEGORIES

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION SIC # OF COMPANIES

## SAULT STE. MARIE WEST WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: March 22,1987

SAMPLING SEASON:

Winter (Cold Weather)

DESIGN AVG FLDW: 18,180 m3/d

				PRE-SAM	PLING PERI	100	Jan J	
1 .	PARAMETER	DAY 1	DAY 2 !	DAY 3 1	DAY 4 1	DAY 5 1	DAY 6 1	DAY 7
;==								=======
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	RAW SEWAGE FLOW	10,500	5,944	6,993	5,994	6,993	11,986	11,488
2	2 of Design Flow	57.76%	32.70%	38.47%	32.97%		65.93%	63.19%
	Influent BOD (ag/L)			227				
	Primary BOD (mg/L) Secondary BOD (mg/L) 2 PRIMARY REMOVAL			14	1			1
	Z SECONDARY REMOVAL			93.7	!	· !-		
	Influent SS (mg/L) Primary SS (mg/L)			136	1			
	Secondary SS (mg/L) % PRIMARY REMOVAL		1	19	1		- 134	1
	% SECONDARY REMOVAL			86.3				
	Influent NH4 (mg/L) Primary NH4 (mg/L)				i		i	
	Secondary NH4 (mg/L) 7 PRIMARY REMOVAL		i			1		
1	Z SECONDARY REMOVAL		1		1	1 		
	Influent TKN (mg/L) Primary TKN (mg/L)			1				1
	Secondary TKN (ag/L)	- 1				- ;	1	1
-	% PRIMARY REMOVAL % SECONDARY REMOVAL		1	1	;		3 1 4	8 8
	Influent Total P (mg/L) Primary Total P (mg/L)			4.2				
1	Secondary Total P (mg/L)		1	0.78	1	1	1 3 1	3 : 3 : 5 :
	% PRIMARY REMOVAL % SECONDARY REMOVAL			81.4			i	1 1

SAULT STE. MARIE WEST WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING:

March 22,1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 18,180 m3/d

				PRE-SAM	PLING PER	IOD		
	PARAMETER :			DAY 10 1				
==		:		:		!	1	
	RAN SENAGE FLOW	11,488	8,991 :	*			7,992 :	
	% of Design Flow	63.19%	49.462				43.96%	
	Influent BOD (mg/L)			106				******
	Primary BOD (mg/L) Secondary BOD (mg/L) I PRIMARY REMOVAL	8 8 8	5 1 2	21	1	8 8	9 8 8	
_	% SECONDARY REMOVAL			80.6	!	!		
-	Influent SS (mg/L) :	1	) 1 1	108	!		1 1 1	
	Secondary SS (mg/L)	1 1	1	22	1	1	1	
	2 PRIMARY REMOVAL :	2 2	1 1 1	79.8	3 3	3 2 2	3 2 1	
-	Influent NH4 (mg/L)	1	1			1		
	Primary NH4 (mg/L) : Secondary NH4 (mg/L) :	3 3		1	1	2		
	I PRIMARY REMOVAL	1	1	9	1	1	3	
-	Z SECONDARY REMOVAL				;	·		
	Influent TKN (ag/L) : Primary TKN (ag/L) :	1	1	8 3	1	1	3	
	Secondary TKN (mg/L)	8 8	1		3 8 8	9 9 9	2 3	
	% PRIMARY REMOVAL	1	1	4	1			
-	% SECONDARY REMOVAL	i 		i 			1 	
	Influent Total P (ag/L)	i		7.2	1	1	1	
1	Primary Total P (mg/L) Secondary Total P (mg/L)	1		0.43		3	1	
,	% PRIMARY REMOVAL							
i	% SECONDARY REMOVAL	1		94.0 1	1	1	1	

SAULT STE. MARIE WEST WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: March 22,1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVG FLON: 18,180 m3/d

-				SAMP	LING PERIO	)		
1	PARAMETER	DAY 15		DAY 17 :	DAY 18 ;	DAY 19 ;	DAY 20 :	DAY 21
!	RAW SEWAGE FLOW	6,993 :	7,992	8,991	7,992 :	8,991	8,991	8,991
2 2 2 2 2 2 2	% of Design Flow	38.47%	43.962	49.462	43.9621	49.46%	49.46%;	49.46%
!	Influent BOD (mg/L)	 		105		! !	 	
1	Primary BOD (mg/L)			15	1			
1	Secondary BOD (mg/L) 2 PRIMARY REMOVAL			15 :	1	i		
*	% SECONDARY REMOVAL			85.3	1		;	
1-	Influent SS (mg/L)			100		i I		
3	Primary SS (mg/L)	1			1			
2 2	Secondary SS (mg/L) Z PRIMARY REMOVAL			19 1		- 1		
1 1	I SECONDARY REMOVAL			80.8	3	1	1	
i	Influent NH4 (mg/L)							
}	Primary NH4 (mg/L)				1			
1	Secondary NH4 (mg/L)		1	:		1	ì	
8	I PRIMARY REMOVAL	1	1	1	1	ŀ	1	
!	I SECONDARY REMOVAL	 				!	!	
2 1	Influent TKN (mg/L)			1		}		
3	Primary TKN (mg/L)	1				;	- 1	
	Secondary TKN (mg/L)				-	- !	- !	
2 2	Z PRIMARY REMOVAL		1		i	1	i	
i !	% SECONDARY REMOVAL	i !!		i i		! !!	!	
1	Influent Total P (mg/L)			2.7			,	
1	Primary Total P (mg/L)		12.3				1	
8	Secondary Total P (mg/L)	1		0.37		- 1	1	
1	% PRIMARY REMOVAL	1	141		1	;	;	
1	% SECONDARY REMOVAL	1 1		86.5	1	- !	1 1	

	PLANT NAME: Sault St. Marle (West) PLANT TYPE: Secondary	ME :	Saul	t St. Marle	(West)					SAMPL	SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight	: Raw Sewagi : Wet Weight	ewage			
CONTAM- INANT	CONTAMINANT NAME	CODI	CODE	QC PLANT PLANT CODEMIN, CONG, MAX, DET. > "DL CONG,	PLANT MAX. DEF. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLORA
CONVENTIONALS	IONALS															
BODS COD DOC NNTKUR	BOD, S DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON NITROGENTOT: KIELLINH TOT	2222	0000	11.00 12.00 7.30	127.00 212.00 19.00	<b>20 20 20 20</b>	અઅઅ	100.0	267 260 271 273	258	99.6	59.47 101.74 15.23	140.23 287.75 22.39	337	1.82	100.0
PH PPUT RSP NINGER NINOZER NINOZER	(LOCCH-(CONCN)) PHOSPHORUS, UNFILT: TOTAL RESIDUR, PARTICULA, TE AMMONIUM, TOTAL FILT: REAC. NITRITE-FILT: REACT.	2222	000000	6.64 0.51 0.00 0.05 13.40	89.60 13.95 13.40		. w w w 4	, 100.0 100.0 100.0 100.0 100.0 100.0 100.0	263 263 275 271 275	275 248 274 28 58	100.0 100.0 100.0 21.4 10.2	4.00 4.00 0.01	6.90 5.18 126.88 15.37 0.01	102 102 17.14 366	1.69	1 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
METALS										t					â	**
ALUT CCUUT HIGUT SRUT ZNUT AGUT MOUT	ALUMINUM,UNFILTTOTAL COPPER,UNFILTTOTAL MERCIRY,UNFILTTOTAL STRONTIUM,UNFILTTOTAL ZINC,UNFILTTOTAL MELRE,UNFILTTOTAL MOLYBDE,UNFILTTOTAL CADMIUM,UNFILTTOTAL	3333333	0000000	290.00 50.00 0.02 180.00 60.00 10.00 10.00	2100.00 50.00 0.15 210.00 199.00 10.00 20.00	<b>0-99099</b> 0	0 - n n 0	100.0 100.0 100.0 100.0 20.0 20.0	322 49 283 319 322 321 321	306 48 48 274 318 315 82 41 76	95.0 96.0 99.7 97.8 12.8 23.6	966.00 50.00 0.05 120.00 10.00 10.00	1000.10 110.60 0.23 370.70 211.00 10.40 12.40 6.50	216 216 216 1.06 1.36 1.36 1.08	265 228 211 2114 294 294 255 1172 209	97.3 97.1 100.0 100.0 15.7 36.8 86.8
BASE NEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	UNDS														
PMBBP PMMCRE PMP4EN	BUTYI.BENZYIJAFINIALATR M-CRESOL PHENOL	333	2	15.50 49.60 50.50	15.50 49.60 50.50	રુ જા જ		20.0	275 275 275	34 167 118	12.4 60.7 42.9	6.27 10.94 10.98	5.85 25.59 14.52	1.66 2.33 2.35	1.66 3.45 2.46	37.8 86.5 78.4
PESTICID	PESTICIDES, HERBICIDES, PCBS															
PIBIICO P324D PIDMDT PIBHCB PIEND2	GAMMA-BHC(IB:XCHI,ORCYCLJBXANB) 24-DICILOROPHENOXYACETIC ACID METHOXYCHI,OR BETA-BHC (IB:XCHI,ORCYCLJBXANB) BNDOSUJ-BAN II 24.5-TRICLORPHENOXYACETIC ACID	22222	~~~~	0.03 0.04 0.03 0.04 0.10	0.24 0.24 0.03 0.04 0.10	****	224	100.0 100.0 80.0 20.0 20.0	276 276 276 276 276 276	143 214 47 32 10	51.8 77.5 17.0 11.6 3.6 8.0	0.10 0.10 0.01 0.01 0.01	0.02 0.03 0.01 0.01	1.94 2.05 4.29 1.63 1.86	229 372 314 166 142	25.2 25.2 25.2 27.8 27.8

PLANT NAME :Sault St. Marie (West) PLANT TYPE :Secondary

UNITS QC STO. FOR STD. REF. CODE! SURFACE

CONTAMINANT NAME

CONTAM-

SAMPLING TYPE : Final Emuent SAMPLE FORM: Wet Weight

GLOBAL

GLOBAL

PLANT

GLOBAL GLOBAL SPREAD % PREV. FACTOR 96.4 100.0 100.0 32.1 89.3 0000 0000 0000 0000 0000 0000 4.4 35.7 21.4 21.4 7.1 643 201 1.60 1.05 1.05 2.00 2.00 2.00 1.83 5.95 6.98 3.72 2.52 2.14 2.14 2.00 1.70 248 471 272 1.83 2.18 3.89 1.44 3.81 1.02 2.37 2.97 4.18 3.87 16.21 271 216 4.11 PLANT SPREAD FACTOR 283 3.49 01.70 0.03 53.30 6.90 02.1 GEOBAL GEO. MEAN 8.09 7.97 7.10 0.68 0.68 0.22 0.22 2.33 0.00 1.37 340.00 0.02 190.00 10.00 8.40 8.92 2.12 2.12 2.12 6.90 0.66 8.63 8.63 0.03 0.03 323 GEO. MEAN GLOBAL % FREQ. DET. 74.2 94.4 98.1 5.6 5.6 78.0 13.7 10.1 6.5 23.3 196 287 287 137 2F 2 2 0 DET. 37 SAMPLES 228 22222 224 FLANT FREQ. DET. 80.0 80.0 80.0 80.0 80.0 100.0 100.0 100.0 16.7 0.04 80.0 80.0 80.0 80.0 90.0 DET. SAMPLES \*\*\*\* w 350.00 350.00 10.00 PLANT PLANT MIN. CONC. MAX. DET. > DL CONC. 110.00 17.00 23.00 7.12 3.67 60.60 198.00 0.06 113.30 7.20 22.00 0.17 0.00 3.80 3.50 7.10 1.10 6.72 0.35 5.10 0.04 1.80 000000 9.50 ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOR ONT-MOR NYS-GUL ONT-MOR DNT-MOB NYS-STD 92.00 30.00 30.00 0.10 50.00 0.20 8 0.00 WATER \_ 000000 33333 333333 ug/ 355 355555 MASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS GAMMA-BHC() EXCILORCYCL JEXANE) 24-DICHLOROPHENOX YACETIC ACID METHOX YCHLOR BETA-BHC (HEXCHLORCYCLHEXANE) BOD, 5 DAY -TOTAL DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL FILT REAC NITROGEN-TOT-KJEL,UNP.TOT RESIDUE, PARTICULATE CHEMICAL OXYGEN DEMAND PHOSPHORUS, UNFILT. TOTAL NITRATES, TOTAL FILT. REAC. ALUMINUM, UNFILT. TOTAL STRONTIUM, UNFILT. TOTAL BUTYL BENZYLPHTHALATE CHROMIUM, UNFILT. TOTAL MERCURY, UNFILT. TOTAL VOLATILES ORGANIC COMPOUNDS ZINC, UNFILT. TOTAL SILVIER, UNFILT. TOTAL NITRITE FILT. REACT. PESTICIDES, HERBICIDES, PCBS (-LOG(IH(CONCN)) XICHLO CHLOROPORM M-CRESOL. PHENOL SILVEX ONVENTIONALS PMMCRB PMPHEN NNTKUR PH PPUT PIDMDT NNO2FR NNOTFR NNHTFR METALS AGUT ALLT SRUT RSP

	PLANT VAME	ME:	Sault Ste. M Secondary	Sault Ste. Marie (West) Secondary	e (West)					SAMPL	SAMPLING TYPE SAMPLE FORM		RawSludge Dry Weight		
CONTAM	CONTAM: CONTAMINANT NAME	UNITSQ (DRY C) WEIGHT)	PA/QC 1	UNITSQA/QC PLANT (DRY CODEMIN, CONC. N (EIGHT) > DL	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL. # SAMPLES	GLOBAL.	GLOBAL. % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR
CONVENTIONALS	HONALS														
NNITTR	AMMONIUM,TOTAL, FILT. REAC.	E K		9003.22	9003.22	~ .		100.0	# 5	47	67.6	9003.22	5911.32	0.00	4.59
NNTKUR	NITROGENTOT KULL, UNPTOT				49196.14			0.001	\$ -5 8 8 -5 8	. S. 4	0.001	49196.14	36897.85	8 8 8	2.98
PHNOL.	PIGNOLICS (4AAP)	m/k			151.13			0.001	05	7	82.0	151.13	82.34	0.00	35
RST RSTLOI	HIGHTORUS, DRUH, L. TOLIAL. RESIDUR, TOT'AL. RESIDUR, TOT'L OSS ON IONI.		0 0 0 0 0 0 0	31100.00	31100.00 21500.00			100.0	3 A A	222	0.001	20300.30 31100.00 21500.00	32783.51 20803.05	8000	# E E E
METALS															
AI.UT	ALUMINUM, UNINI ET TOTTAL.	mg/kg		21969.13	21969.13	-	-	100.0	15	51	100.0	21969.13	9835.74	0.00	2.51
ASUT	ARSENIC, UNFILT TOTAL.	mg/kg	00	8.36	8.36			100.0	51	80	98.0	8.36	6.13	0000	2.01
COUT	COBALT, UNFILL TOTAL	me/ke		15.76	15.76		-	100.0	4	30	73.2	15.76	9.29	0.00	4.69
	CLROMIUM, UNFILT TOTAL.	mg/kg me/ke		471 06	471.06			0.001	2 9 9	00 4	0.86	471 06	301.43	00.00	3.68
HGUT	MERCLRY, UNFILT TOTAL	me/kg		191	191			100.0	20	20	100.0	191	2.23	0.00	1.67
PRIT	NICKEL, UNHILT TOTAL	mg/kg	00	17.04	17.04			100.0	9 9	1 4	95.7	17.04	59.17	8.0	2.80
SEUT	SELENRIM, UNFILL TOTAL.	merke		3.86	3.86			100.0	200	4	96.0	3.86	3.04	0.00	1.93
ZNUT	STRONTIEM, CNFB.L.TOTAL. ZINC, UNFBLTTOTAL.	mg/kg mg/kg		108.81 828.92	828.94			100.0	2 2	2 2	100.0	8.28.94	905.39	0.00	2.39
BASENEL	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SUND													
PMB2IE	BIS(2-CHLOROIPROPYL)ETHER	ug/kg	1 9581	958199.40 93	958199.40			0.001	15	7 9	3.9	958199.40	3464.00	00.0	3.02
PNPIEN	MENANTIRENE	3			15176.80			100.0	35			15176.80	3563.50	0.00	2.19
DIOXINS	DIOXINS AND FURANS														
CICL)864	OCTACH ORODIBENZOBIOXIN	ugkg	_	3.00	3.00	-	-	0.001	90	25	90.0	3.00	8.50	0.00	3.60
PESTICID	PESTICIDES, HERBICIDES, PCBS														
PUBHCA	ALPHA-BHCGHEXCHLORCYCLLHEXANE)	ug/kg	1 0	12.90	12.90			100.0	15 55	1.2	23.5	12.90	5 50	00.00	2.74
PIDIEL.	DIFLORIN	ug/kg		6.40	6.40			100.0	51	20	39.2	6.40	7.20	0.00	3.10
PUDMOI	METHOXYCHLOR	ug/kg		164.00	164.00			100.0	25	61	37.3	164.00	45 80	0.00	5.15
PHENDS	ENDOSCILLAN SULMATE	ug/kg ug/kg		28 90	28.90 28.90			0.001	2 5	0 0	æ æ	28.90	18 60	0.00	2.80
PHILEPE	HEPACHLOREPOXIDE	ug/k	. ~ ~	16.10	16.10			0.001		12	23.5	16.10	5.00	0000	2.62
P3245T	2,4,5-TRICLORPH-NOXYACETC ACID	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		121.50	321.50			100.0	2 2	21	41.2	321.50	48 90	00:0	3.49
P324D	24 DICHLOROPHENOXYACTETIACODC	ug/kg		803.90	803.90	-		100.0	15	38	74.5	803.90	93 20	00:00	05'9

997.1 997.1 13.3 997.1 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 1 100.0 100.0 100.0 100.0 100.0

		.(	CITERION :	nth n	
	GLOBAL * PREV.	41.2	Mindda		
	GLOBAL SPREAD FACTOR	3.86	TOWNS IN		red post
	PLANT SPREAD FACTOR	80	A TONOMORY		
angua.	GLOBAL GEO. MEAN	1345.90	CEDOREPHALIE		
SAMPLE FORM : Dry Weight	PLANT GEO. MEAN	11350.50	Marandon		
	GLOBAL % FREQ. DET.	1,4			
SAMPLE	GLOBAL.	97	A DATE OF THE PARTY		
	GLOBAL # SAMPLES	5	0.1841=35		
	FLANT % FREQ. DET.	100.0	(II)		220000
	PLANT # DET.	-			
	PLANT # SAMPLES	-	.Ri-ugo		
		05 0511		The comments of	
Secondary	PLANT MIN, CONC.	11350.50			
	UNITSQA/QC. PLANT PLANT (DRY CODE MIN. CONC. MAX. DET. WEIGHT) > DL CONC.	- Ven			
PLANT TYPE	CONTAM: CONTAMINANT NAME.	VOLATILE ORGANIC COMPOUNDS  DOMONY M. AND D.XVI HING			
	CONTAM.	VOLATILI			The late

1844.AFF (1)

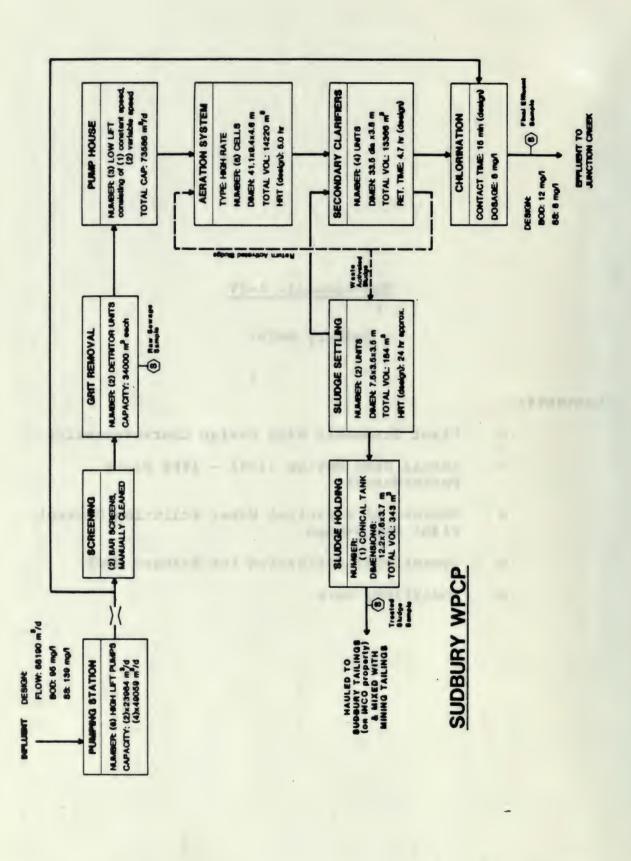
-	PLANT NAME PLANT TYPE		Sault Ste. N Secondary	: Sault Ste. Marie (West) : Secondary	West)					SAMPL	SAMPLING TYP SAMPLE FORM	SAMPLING TYPE: Treated Sludge SAMPLE FORM: Dry Weight	ted Sludge Veight				
CONTAM-	CONTAMINANT NAME	UNITSQA/QC PLANT (DRY CODEMIN. CONC. WEIGHT) > DL	QC FLANT DEMIN. COT > DL	ಲ	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT  DET.	FLANT S. FREQ. DET.	GLOBAL # SAMPLES	GLOBAL	GLOBAL. % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD PACTOR	GLOBAL SPREAD FACTOR	GLOBAL.	
CONVENTIONALS	IONALS																
COD	CHEMICAL OXYGEN DEMAND NITROGEN-TOT-KJEL, UNE-TOT	mg/kg 0	106374.50	_	36799.99			100.0	36	36	100.0	106374.50	508097.94	0.00	4.65	100.0	
PHI PHINOL	(4.OC(H+(CONCN)) PHENOLICS (4AAP)	me/kg 0			231.08			0.001	<del>2</del> <del>2</del> <del>2</del>	\$ 7 7	83.7	231.08	43.05	8 8 8	3.14	87.9	
RST RSTLOI	PHOSPHORUS, UNFILL TOTAL, RESIDUE, TOTAL, RESIDUE, TOTALOSS ON IGNI.	mg/kg 0	25/4160.00 251000.00 177834.00		25/4160:00 251000:00 177834:00			100.0	20 00	20 80		251000.00	80434.04	00.00	3.23	0.001	
METALS																	
ALUT ASUT	ALUMINUMUNELETOFAL. ARSENICUNELETOTAL	mg/kg 0	1748		17487.73			100.0	50	50	0.001	17487.73	10715.94	0.00	2.82	100.0	
CRUT	CADMIUM,UNFILTTOTAL, CHROMIUM,UNFILTTOTAL,				2.51			100.0	20 5	1 9 5	10000	72.27	333.06	0.00	3.59	100.0	
CUUT.	COPPER, UNFILLTOTAL. MERCURY, UNFILLTOTAL.		7		1.79			100.0	\$ 65	2 4 4	98.0	1.79	3.24	0.00	2.04	97.1	
PBUT	LEAD, UNFILLTOTAL. SELENIUM, UNFILLTOTAL.	mg/kg 0	~	83.82	83.82			100.0	2 2	4 4 9 8	0.09	2.79	2.67	0.00	2.98	97.1	
SRUT	STRONTIUM, UNFILTTOTAL. ZINC, UNFILTTOTAL.	mg/kg 0	123.98 807.53		123.98			100.0	20 00	20 00	100:0	807.53	988.90	000	2.57	0.001	
BASENEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SUNDS															
PNPGEN	POLNANTIRENT	ug/kg 1	11155.40		11155.40	-	-	0.001	90	12	24.0	11155.40	2220.50	0.00	4.27	26.5	
DIOXINS	DIOXINS AND FURANS																
P98CDD	OCTACHI, ORODINENZODIOXIN	ug/kg 1		5.20	5.20	-	-	100.0	49	56	53.1	5.20	7.10	0.00	3.6	7.3	
PESTICIDI	PESTICIDES, HERBICIDES, INC. BS																
PIBHCA PIBHCG PIEND2	ALPHA-BHCGHEXCHLORCYCLLHEXANB) GAMMA-BHCGHEXCHLORCYCLLHEXANB) ENDOSJJ-SAN II PP-DDT	ugke 1 ugke 3 ugke 3	91.	8.80 91.90 12.30 37.30	8.80 91.90 12.30 37.30			100.0 100.0 100.0 100.0	20 20 00 00 00 00 00 00 00 00 00 00 00 0	111 12 7 7 5	22.0 24.0 14.0	8.80 91.90 12.30 37.30	5.60 5.70 4.70 16.70	0.00	3.00 3.13 2.67 2.14	32.4 35.3 20.6 14.7	

# Sub-Appendix A-27

# Sudbury WPCP

### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Sudbury WPCP
- o Analytical Data



SUDBURY WPCP High Rate Activated Sludge Capacity - 61.371 18(3) m3/day

PARAMETER	1981	1982	1983	1984	1985	15 YEAR 1 AVERAGE 11981 - 8
Avg. Daily Flow (1888 m3/day)	52.12	51.19	54.85	54.88	52.80	53.01
508F 1-73 A 7 A 3			70.04			
BODS - Influent (mg/L) BODS - Effluent (mg/L)	86.10	99.88	79.26	9.99	88.58	86.75
Annual BODS Significantly	11.00	1/.30	10.30	1 7.77	1 11.0/	1 13.46
Different from Mean	1	1		,		
Annual Average BOD5?	I.D.	I.D.	1.D.	I.D.	1.D.	1
	 				 	-
TSS - Influent (eg/L)	115.48	85.60	74.33	96.72	189.68	96.34
TSS - Effluent (eg/L)	12.78	18.88	13.18	9.38	8.32	1 19.78
Annual TSS Significantly	1	8			1	1
Different from Mean	1 7 8				1	1
Annual Average TSS?	I.D.	I.D.	I.D.	I.D.	I.D.	† 1 2
Total P - Influent (mg/L)	4.78	5.48	3.87	3.82	4.24	4.41
Total P - Effluent (mg/L)	2.28	1.98	1.49	1.84	2.19	1 1.91
Annual TP Significantly	1	!		1		1
Different from Mean	1	1			1 2	;
Annual Average TP?	I.D.	1.D.	1.D.	I.D.	1.D.	1
TP in Compliance?	l N	: N	N I	N	N	1 N

I.D. - Insufficient Data

### SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

### GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER	SUDBURY WPCP
TREATMENT TYPE	HIGH RATE
210012121111	112011 14112
DESIGN CAPACITY (1000 m3/d)	68.190
1986 AVERAGE DAY FLOW (1000 m3/d)	50.910
POPULATION SERVED	95000

### % OF TOTAL FLOW ATTRIBUTED TO:

NO OF SIC CATEGORIES

INDUSTRIAL SOURCES (%)	1
COMMERCIAL SOURCES (%) (Population x 0.0757)	14
RESIDENTIAL SOURCES (%) (Population x 0.175)	33
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from industrial, commercial and residential sources)	52
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER	93 18

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	SIC	# OF COMPANIES
BEVERAGES DAIRY MEAT MISC FOOD PROCESSING MISC FABRICATED METAL PRODUCTS	2082-2087 2021-2026 2011-2013 2095-2099 3490-3499	1 3 2 1

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### SUDBURY NPCP

TREATMENT FACILITY: Other (High Rate Activated Sludge)

PERIOD ENDING: May 15, 1987
SAMPLING SEASON: Summer (Warm Weather)
DESIGN AVG FLOW: 61,190 m3/d

2				PRE-SAM	IPLING PERI	CO		
		DAY 1 :	DAY 2 1				DAY 6 :	
		-						
-	RAN SENAGE FLOW	60,308	58,258	56,017	55,190	55,481		49,311
	I of Design Flow	98.567	95.212	91.551	90.19%		86.981	80.59%
	Influent BOD (ag/L) Primary BOD (ag/L) Secondary BOD (ag/L) I PRIMARY REMOVAL I SECONDARY REMOVAL			1	 	1	 	
	Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) 2 PRIMARY REMOVAL 3 SECONDARY REMOVAL	141.0		132.0 6.0 95.5		105.0 8.6 91.8	1	
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL			1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0	3 0 1 1 1 2 2 0	5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 -	
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Influent TKN (mg/L) : Primary TKN (mg/L) : Secondary TKN (mg/L) : 2 PRIMARY REMOVAL : 2 SECONDARY REMOVAL :			2 2 3 0 1 1 1	; ; ; ;	1	2 1 0 0 1 1 1 2 2	
	Influent Total P (mg/L) : Primary Total P (mg/L) : Secondary Total P (mg/L) : I PRIMARY REMOVAL : I SECONDARY REMOVAL :			2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	1	3 5 5 1 1 2 5	3	

### SUDBURY WPCP

TREATMENT FACILITY: Other (High Rate Activated Sludge)

PERIOD ENDING:

May 15, 1987

SAMPLING SEASON:

Summer (Warm Weather)

DES

	ESIGN	AV6	FLOW:	61,	190	m3/	d
--	-------	-----	-------	-----	-----	-----	---

111				PRE-SA	MPLING PER	IOD		
11	PARAMETER			DAY 10 :				
								********
	RAW SEWAGE FLOW	52,326	52,962			51,462		
11	% of Design Flow	85.511		84.55%			79.34%	
11-	Influent BOD (ag/L) Primary BOD (sg/L)	93.2				   	   	
11	Secondary BOD (mg/L) 2 PRIMARY REMOVAL	11.2	1	1	1	1	<b>!</b>	
11	I SECONDARY REMOVAL	1 0.88	- 1	- !		- 1		
11-	Influent SS (mg/L) Primary SS (mg/L)	118.0	66.0	110.0		104.5		
11	Secondary SS (mg/L) I PRIMARY REMOVAL	11.0	9.0 1	7.2 1	- 1	4.6 1	1	
11	Z SECONDARY REMOVAL	90.7 1	86.4	93.5 1		95.6 1		
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) Z PRIMARY REMOVAL	0.3	· · · · · · · · · · · · · · · · · · ·					
11	% SECONDARY REMOVAL	1 1						
11-	Influent TKN (mg/L) Primary TKN (mg/L)	23.8					 	
11	Secondary TKN (mg/L) 2 PRIMARY REMOVAL	2.0	; ;			:	1	
11	% SECONDARY REMOVAL	91.6	i		i	i	;	
11-	Influent Total P (mg/L)	4.55						
11	Primary Total P (mg/L) Secondary Total P (mg/L) 2 PRIMARY REMOVAL	2.46		1		1	;	2 3 1
11	2 SECONDARY REMOVAL	45.9		1		1	1	

### SUDBURY MPCP

TREATMENT FACILITY: Other (High Rate Activated Sludge)

PERIOD ENDING: May 15, 1987 SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVS FLOW: 61,190 m3/d

			SAMP	LING PERIO	D			
	DAY 15							
		**********			========			=:
RAW SEWAGE FLOW	49,334	46,747	45,738	50,453	48,200			
I of Design Flow	80.621	76.401	74.751	82.45%	78.771		2 2 2 3	
Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) 1 PRIMARY REMOVAL 2 SECONDARY REMOVAL		3		1				
Influent SS (mg/L) Primary SS (mg/L)	135.0	3 5 6	114.0	8 2 1	102.0		1	
Secondary SS (mg/L) 2 PRIMARY REMOVAL	7.4	1	4.8		7.0		1	
I SECONDARY REMOVAL	94.5	1	95.8 1	1	93.1			
Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL		1	1				2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
Influent TKN (mg/L) Primary TKN (mg/L)	3 1	5 2 9	1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8		1	
Secondary TKN (mg/L) I PRIMARY REMOVAL	1	9	1	1 1 1			1	
Z SECONDARY REMOVAL	!						.!	_
Influent Total P (mg/L)		1	1		3		1	
Primary Total P (mg/L)	3 1	3 3	1	1	1		2 2	
Secondary Total P (mg/L)	1	. 1	ė,	1	3		1	
7 PRIMARY REMOVAL	1		1	1 1	1		9	
% SECONDARY REMOVAL			2 2	1	9	_	i	

PLANT NAME: Sudbury PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

GLOBAL % FREV. 100.0 100.0 100.0 100.0 100.0 32.4 78.4 90.00 37.8 GLOBAL SPREAD FACTOR 2462525245 3.45 3.72 202 PLANT SPREAD FACTOR 274 274 176 176 176 176 176 1.08 1.10 1.10 1.42 1.42 1.42 1.42 201 7 7 39 GLOBAL GEO. MEAN 110.60 110.60 0.23 370.70 211.00 38.80 10.40 9.30 6.50 51.10 22.39 22.39 15.37 25.44 6.90 5.18 126.88 0.01 14.52 0.02 23.90 GEO. MEAN 88.91 186.78 114.76 123.64 7.11 4.32 74.87 \$50.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 27.30 23.20 0.03 GLOBAL % FREQ. DET. 22.00.0 20.00.0 20.00.0 20.00.0 10.2 42.9 51.8 15.7 GLOBAL DET 266 273 273 273 273 273 275 278 288 288 288 288 306 48 274 274 318 318 318 82 82 82 41 167 143 SAMPLES GLOBAL 322 322 322 322 322 322 322 276 275 274 PLANT % FREQ. DET. 100.0 100.0 100.0 100.0 83.3 83.3 80.0 16.7 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80.00 80 20.0 80.0 0.001 SAMPLES w w w w QC PLANT PLANT CODE MIN. CONC. MAX. DET. > 'DL CONC. 97.90 18.00 15.10 27.00 9.27 4.58 124.00 0.02 0.10 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 97.60 0.04 42.00 20.00 20.00 10.00 10.00 20.00 20.00 40.00 140.00 \$3.00 12.50 112.50 21.00 21.00 6.53 3.88 50.80 0.01 16.30 0.03 UNITS GAMMA-BHC(HEXCHI,ORCYCLHEXANE) ug/L 24-DICHLOROPHENOXYACETIC ACID ug/L 33 55555555555 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS BOD, S DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL PILT REAC. NITROGEN-TOT-KJEL, UNP. TOT MOLYBDENUM, UNFILT. TOTAL PHOSPHORUS, UNFILT TOTAL RESIDUE, PARTICULATE NITRITE, FILT. REACT. NITRATES, TOTAL FILT. REAC. STRONTIUM, UNFILT TOTAL ALUMINUM, UNFILT. TOTAL CHIROMIUM, UNFILT. TOTAL MERCURY, UNFILT TOTAL CADMIUM, UNFILT. TOTAL CONTAM. CONTAMINANT NAME **VOLATILES ORGANIC COMPOUNDS** COPPER, UNFILT TOTAL COBALT, UNIVILIT. TOTAL NICKEL, UNFILT TOTAL SILVER, UNFILT. TOTAL ZINC, UNIFIL, T. TOTAL M-, AND P-X YLENES CHLOROFORM PESTICIDES, HERBICIDES, PCBS (·LOG(H+(CONCN)) M-CRESOL PHENOL CONVENTIONALS PMMCRE PMPHEN BODS COD DOC NNHTIPR NNTKUR BZMPXY METALS P1BHCG P324D PH PPUT RSP NNO2FR NNOTFR LVV ALUT CCUUT SRUT SRUT SAUT NIUT AGUT CCOUT CCOUT CRUT

									-0:		
	GLOBAL & PREV.		100.0 100.0 100.0 100.0 100.0 100.0 100.0		96.4 77.8 100.0 85.7 100.0 100.0 67.9 89.3		7.1		96.4 100.0 28.6 50.0		32.1
	GLOBAL SPREAD FACTOR		2.07 1.83 1.60 . 6.98 5.95 7.75 2.71 1.05 1.05 1.05		3.72 2.62 2.62 3.60 2.14 2.14 1.54 1.56 2.00		3.74		2.48 4.71 1.40 1.83		2.18
	PLANT SPREAD FACTOR		1.44 1.34 1.09 1.06 1.06 1.07 1.07		1.31 0.00 1.10 1.07 1.105 1.16 1.38 1.38		0.00		3.59 1.51 1.77		3.01
_	GLOBAL GEO. MEAN		21.22 52.80 8.09 3.90 0.22 2.33 7.97 7.97 7.06 10.12		101.70 13.10 0.03 22.10 340.90 53.30 6.40 6.60 9.00		0.38		0.02 0.08 0.02 0.03		1.37
: Final Effluen : Wet Weight	FLANT GEO. MEAN		46.15 81.28 9.45 2.44 1.06 8.04 4.61 7.21 2.28 10.93		80.00 10.00 80.00 80.00 10.00 10.00		1.40		0.03 0.19 0.02 0.03		215
8-3	GLOBAL % FREQ. DET.		99.1 100.0 100.0 11.5 83.0 100.0 100.0 97.6 99.6		74.2 63.8 94.4 64.0 100.0 100.0 24.4 28.1 51.3		4.6		78.0 78.0 4.0		16.5
SAMPLING TYPE SAMPLE FORM	GLOBAL. # DET.		211 211 220 204 204 194 186 222 222 224 206 206		196 30 220 171 267 262 263 65 137		2		157 177 9 82		37
SAIS	GLOBAL # SAMPLES		213 220 220 220 222 224 224 227 227 227 227 227 227		264 47 233 267 267 266 267 267 267		4		227		224
	PLANT % FREQ. DET.		100.0 100.0 100.0 100.0 100.0 100.0 100.0		100.0 100.0 100.0 100.0 100.0 100.0 50.0 16.7		100.0		100.0 100.0 20.0 20.0		40.0
	PLANT # DET.				0-9000mm-				20 20 20 20		- 15
	PLANT # SAMPLES		20 20 20 20 20 20 20 20 20 20 20 20 20 2		· · · · · · · · · · · · · · · · · · ·		-		80 80 80 80		en en
	PLANT MAX. DET. CONC.		73.80 132.00 10.40 3.90 1.1.2 9.65 5.70 7.92 2.75		110.00 10.00 10.00 90.00 70.00 20.00 20.00		1.40		0.04 0.05 0.05		11.00
	PLANT PLANT MIN. CONC. MAX. DET. > DL CONC.		30.00 60.00 8.40 1.23 0.97 6.65 3.10 6.76 2.41 8.20		50.00 10.00 80.00 80.00 50.00 10.00 10.00		1.40		0.03		4.20
iry	STD. REF.				ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB NYS-STD		ONT-MOE		ONT-MOB ONT-MOB ONT-MOB		NYS-STD NYS-GUL
PLANT NAME : Sudbury PLANT TYPE : Secondury	QC STD. FOR CODE SURFACE				75.00 5.00 0.30 25.00 3750.00 30.00 5.00		1.50		0.06 4.00 0.00		0.20
NAN	S O O O O O O O O O O O O O O O O O O O		00000000		00000000		~		~~~		
LANT	UNITS QC CODE				33333333		20		2222		22
d d	CONTAMINANT NAME	99	BOD, S DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON ARMONIUM, TOTAL FILT REAC. NITRITE FILT. REACT. NITRATES, TOTAL, FILT REAC. NITRATES, TOTAL, FILT REAC. NITROGEN-TOTALE, UNF. TOT CACHH(CONCN) PHOSPHORUS, UNFILT. TOTAL. RESIDUR, PARTICULATE		ALUMINUM, UNPILT.TOTAL COPPER, UNPILT.TOTAL MICKEL, UNPILT.TOTAL STRONTILM, UNFILT.TOTAL ZINC, UNPILT.TOTAL ZINC, UNPILT.TOTAL ZINC, UNPILT.TOTAL MOLYBDENUM, UNPILT.TOTAL GOBALT, UNPILT.TOTAL	RANS	HEPTACHLORODIBENZODIOXIN	BICIDES,PCBS	GAMMA-BICCHEXCHLORCYCLJEXANE) 24-DICHLOROPIENOXYACETIC ACID PCB, TOTAL SILVEX	VOLATILES ORGANIC COMPOUNDS	CHLOROFORM TETRACHLOROFTHYLENB
	CONTAM- INANT	CONVENTIONALS	BOD5 BOD. COD CHES. DOC DISS. NWHITPR AMM NNOZFR NITRI. NWOTPR NITRI. NWTKUR NITRI. PH (LOC PPUT PHOS RSP RESI	METALS	ALUT ALUN CUUT COPP HGUT MERC NUT STRO SRUT ZINC COUT COPA MOUT MOLY COUT COPA	DIOXINS AND FURANS	P97CDD HBPT	PESTICIDES, HERBICIDES, PCBS	PIBHCG GAMMA P324D 24-DICP PIPCBT PCB, TO P3SILV SILVEX	VOLATILES ORG	XIGHO CHEC

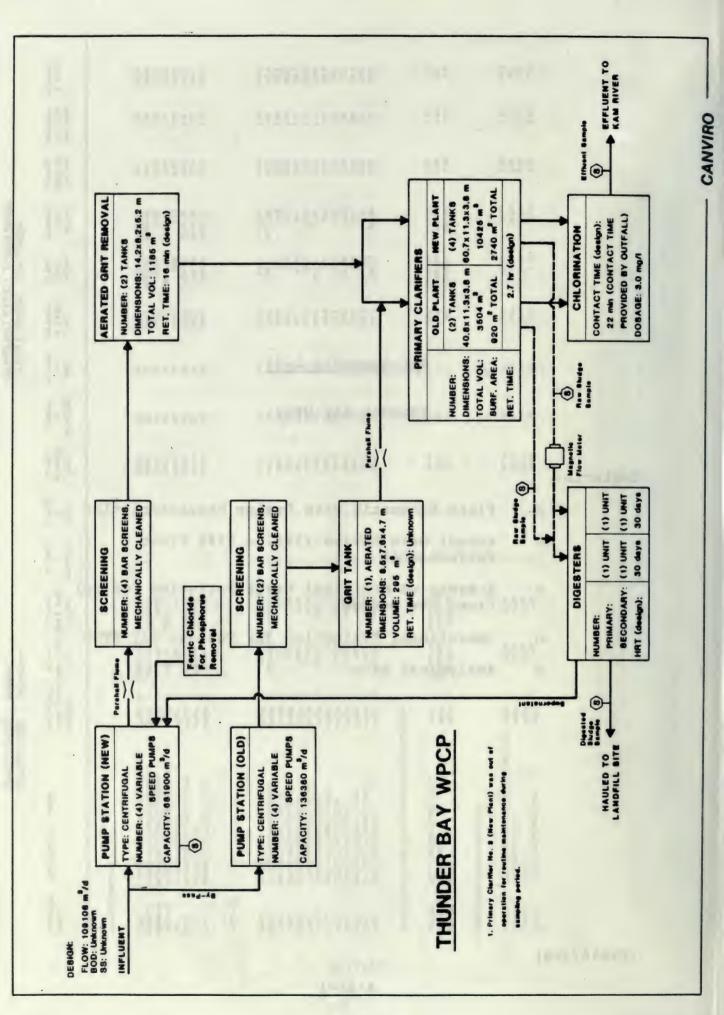
	PLANT	PLANT NAME: Sudbury PLANT TYPE: Secondary	udbury						SAMPL	SAMPLING TYPE: SAMPLE FORM : 1	E: Treated Slu : Dry Welght	Treated Sludge Dry Weight			
CONTAMINANT NAME UNITSQ. (DRY CO.)	UNITE (DRY WEIGH	So E	UNITSQA/QC PLANT (DRY CODE MIN. CONC. EIGIT) > DL	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL.	GLOBAL # DET	GLOBAL, * FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPRKAD FACTOR	GLOBAL % PREV.
CHEMICAL OXYGEN DEMAND MAKE AMMONIUMTOTAL FILE REAC. MAKE	mg/kg	000	0 1040892.19	20260.22			100.0	821	823		20260.22	508097.94	0.00	4.65	100.0
NITROGEN-TOT-KJEL, UNP.TOT mg/kg mg/kg (4.000(14.000CN))	mc/c	, 00	0 70631.97 0 5.99	70631.97 5.99			0.000	4 49	49 23	100.0	59.48 70631.97 5.99	42.68	0.00	1.77	100.0
H.T.TOTAL mg/kg mg/kg mg/kg mg/kg mg/kg			0 20074.35 0 26900.00 0 19300.00	20074.35 26900.00 19300.00		e good good good	100.0	50 8 8	\$0 80 \$0 80	100.0	20074.35 26900.00 19300.00	76638.67 80434.04 43379.33	0.00	6.91 3.23 3.19	100.0
me/kg	_			16:99	-	. 1	100.0	4	4	100.0	16.99	37.78	0.00	2.33	100.0
I. mg/kg mg/kg			2.97	2.97	<b></b>		100.0	S S	50 49	100.0	\$\$76.21 2.97	10715.94	0.00	2.82	97.1
mg/kg mg/kg			10.04	5.38	perk perk		100.0	39	32	91.1	5.58 10.04	10.47	0.00	3.98	85.7
T. mg/kg			21.56	21.56			100.0	50 45	50 45	0.001	21.56	333.06	0.00	3.59	100.0
MERCURY, UNFILT TOTAL mg/kg 0 NICKEL, UNFILT TOTAL me/kg 0			3.72	3.72			100.0	50	49	0.86	3.72	3.24	0.00	2.04	97.1
mg/kg			144.98	144.98			100.0	2 2 3	46	98.0	144.98	196.62	0.00	2.46	97.1
L mg/kg mg/kg mg/kg			66.91 408.92	66.91	ad year yes		100.0	2 2 2	\$ 50 S	100.0	66.91	240.93	8 6 6	2.28	100.0
BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	POUNDS													777	
BUTYLBENZYLMITIALATB ugkg 1 M-CRESOL, ugkg 1 M-GNOL, ugkg 2			914498.10 2211895.90 31126.40	914498.10 2211895.90 31126.40			100.0	20 20	# 55 E	30.0	914498.10 2211895.90 31126.40	1916.90 \$281.80 2108.80	0.00	5.23 8.20 3.63	17.7 35.3 8.8
PESTICIDES,HERBICIDES,PCBS															
GAMMA-BHCGEXCHLORCYCLHEXANE) ug/kg 1 MFTHOXYCHLOR HP-DDE ug/kg 1 HEXACHLOROBENZENB ug/kg 1	NE) ug/kg 2 ug/kg 1 ug/kg 1 ug/kg 2		22.30 74.30 11.20	22.30 74.30 11.20 1.10	/4444		100.0 100.0 100.0	20 20 20	23 22 .	24.0 30.0 68.0 42.0	22.30 74.30 11.20	5.70 34.10 11.10 7.00	00.00	3.13 4.42 2.72 2.96	35.3 38.2 73.5 55.9

# Sub-Appendix A-28

# Thunder Bay WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Thunder Bay WPCP
- o Analytical Data



A-28-2

THUNDER BAY MPCP Primary Phosphorus Removal - Continuous Capacity - 189,184 18(3)m3/day

PARAMETER	1981	1982	1983	1984	1985	15 YEAR 1 AVERAGE 11981 - 85
Avg. Daily Flow (1888 m3/day)	81.74	96.83	188.45	184.15	113.77	99.39
BOD5 - Influent (mg/L) BOD5 - Effluent (mg/L) Annual BOD5 Significantly Different from Mean Annual Average BOD5?	124.79 53.18	165.38 69.68	116.83 46.93	132.46 54.31	138.25 51.48	135.51
TSS - Influent (mg/L) TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean Annual Average TSS?	194.58 53.60	298.88 76.10	158.84 42.68	139.77 36.58	289.67 33.71	288.31 48.52
Total P - Influent (mg/L) Total P - Effluent (mg/L) Annual TP Significantly Different from Mean	4.98 3.14	6.38	4.89 1.61	3.82	3.44	4.52
Annual Average TP? TP in Compliance?	1.D.	I.D.	i I.D.	i I.D.	1.D. N	1 1 1 N

I.D. - Insufficient Data

### SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

#### GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

GENERAL DESCRIPTION OF WATER POLLO	TION CONTROL PLANT (WPCP)
NAME OF WPCP	THUNDER BAY WPCP
WORKS NUMBER	120004805
TREATMENT TYPE	PRIMARY
DEGICAL CARACTERY (1000 -2/4)	PHOSPHORUS REMOVAL CONTINUOUS
DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d)	109.104
POPULATION SERVED	101527
THE REAL PROPERTY OF	
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	9
installed socious (a)	ar I Landin of State Industrial
COMMERCIAL SOURCES (%)	
(Population x 0.0757)	8
RESIDENTIAL SOURCES (%)	
(Population x 0.175)	19
(10)	
UNACCOUNTED FOR, INCL. INFILTRATIO	N 63
(100-% Contributed from	
industrial, commercial and residential sources)	
residential sources;	
PROFILE OF INDUSTRIES IN CATCHMENT	
TOTAL NO OF INDUSTRIES	206
INDUSTRIES WITH WATER	123
NO OF SIC CATEGORIES	29
DESCRIPTION OF THE TOP 5 INDUSTRIES	S DISCHARGED TO THE WPCP
(BASED ON WATER USE DATA)	
DESCRIPTION (4. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	SIC # OF
10 0	COMPANIES
	· · · · · · · · · · · · · · · · · · ·

PULP, PAPER, PAPERBOARD MILLS

PRINTING AND PUBLISHING

TRANSPORTATION EQ'T

BEVERAGES

PHOSPHATE MFG

2600-2631

2700-2799

2082-2087

3711-3799

2819-2819

5

5

4

2

15

OPERATIONAL EVALUATION FOR: THUNDER BAY WPCP

TREATMENT FACILITY: Primary

PERIOD ENDING: June 5, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AV6 FLOW: 109,106 m3/d

				PRE-SA	MPLING PE	RIOD		
	PARAMETER :	DAY 1	DAY 2	DAY 3 :	DAY 4	DAY 5	DAY 6	DAY 7
==								
	RAW SEWAGE FLOW			1				4
	% of Design Flow			1			P	3
	Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		7	All	
# E E E E E E E E E E E E E E E E E E E	Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL			QX	SUN			
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL		100	Q.				
-	Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL	OR						
	Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL					2 2 2 2 3		

THUNDER BAY WPCP

TREATMENT FACILITY: Primary

PERIOD ENDING:

SAMPLING SEASON:

June 5, 1987 Summer (Warm Weather)

DESIGN AVE FLOW:

109,106 m3/d

				PRE	-SAMPI	ING PE	RIOD			
PARAMETER	DAY 8									: DAY 14
RAN SEWAGE FLOW	1	:		     	3		1		   	4
% of Design Flow	1	i		1	1		1		,	Sp
 Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) 2 PRIMARY REMOVAL	!	!-		-{       	       			4,	JAIL	BLE
 % SECONDARY REMOVAL							7			
Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) I PRIMARY REMOVAL		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			C			300		
Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL	          		40	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			       			
Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL	OF	~			3 3 4 5 2 6 6					
 Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) Z PRIMARY REMOVAL Z SECONDARY REMOVAL	;	:-		1	3 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5					

THUNDER BAY WPCP

TREATMENT FACILITY: Primary PERIOD ENDING: June 5, 1987
SAMPLING SEASON: Summer (Warm Weather)
DESIGN AVG FLOW: 109,105 m3/d

							SAM	PLING	PER	IOD				
	PARAMETER	: DAY	15	DAY	16	DAY								DAY 2
1111111		!		:	=====			===== !	====	!	::::::	::::::: :	====	
RAW S	SEWAGE FLOW	1		1				3				1		:4
		1		1				8		.1		1		V
% of	Design Flow	1		1				8 8		1		1	P	O.
Influ	uent BOD (mg/L)			 				 		-		S	V,	2
Prima	ary BOD (mg/L)	3		1				2			-	71		1
	ndary BOD (mg/L)	i		1				2		1	D	1		1
	IMARY REMOVAL	1		1				1		. 1	1	1		1
1 SEC	CONDARY REMOVAL	-:		}				 		-		; ;		; -
	uent SS (mg/L)	1		1				1	1	~		1		1
	ary SS (mg/L)	;		8		1		1	7	H		1		1
	ndary SS (mg/L)	1		1				-	5	1		1		1
	IMARY REMOVAL	1					/	5		1				1
7 2F	CONDARY REMOVAL	i -!		i -{			S	4		-!		i .}		i :{
Infl	uent NH4 (mg/L)	1		8 3		<	>	1		1		1		1
Prim	ary NH4 (mg/L)	1		1		K		2		1		1		1
	ndary NH4 (mg/L)	8		2 8	Ċ	1		8 2		1		1		1
	IMARY REMOVAL			1	1	,		1				1		1
1 SE	CONDARY REMOVAL	i -!			7	: !		; ;		- }				; 
	uent TKN (mg/L)	t	1	( P		i t		1		1		1		!
	ary TKN (mg/L)	1	0	1		1		1		1		1		1
	ndary TKN (mg/L)	(	1	i		1		1				5		1
	IMARY REMOVAL CONDARY REMOVAL		~	1	40	2 2 2		1 1		1		1		1 1
Infl	uent Total P (mg/L)	1		1				1		1		1		1
	ary Total P (mg/L)	1		į Į		1		1		3 1		2 2		1
	ndary Total P (mg/L)	1		1		ì		2		3 1		2		1
I PR	IMARY REMOVAL	1		1		2 8		3 2		3		1		3 2

GLOBAL % PREV. 000 000 000 000 000 000 4.18 97.3 97.1 97.1 97.1 99.2 54.4 88.3 88.3 88.3 GLOBAL SPREAD FACTOR PLANT SPREAD FACTOR 238 238 238 204 143 143 GEO. GEO. MEAN 110.60 110.60 110.60 370.70 211.00 51.10 59.50 17.30 22.39 22.39 115.37 25.44 6.90 126.88 100.84 SAMPLING TYPE : Raw Sewage SAMPLE FORM : Wet Weight PLANT GEO. MEAN 20.00 6.97 147.32 103.24 0.01 GLOBAL % FREQ. DET. 95.0 96.8 96.8 97.8 17.7 1.6 5.5 5.5 GLOBAL 258 273 273 266 288 89 89 306 48 274 318 318 57 57 57 82 82 SAMPLES GLOBAL 49 49 322 322 322 322 322 322 322 PLANT % FREQ. DET. 000.0 000.0 000.0 000.0 000.0 000.0 133.3 167.7 PLANT # DET. SAMPLES PLANT UNITS QC PLANT PLANT
CODE MIN. CONC. MAX. DET.
MDL CONC. 330.00 328.00 21.00 13.50 7.00 150.00 0.03 PLANT NAME: Thunder Bay PLANT TYPE: Primary 256.00 256.00 115.00 111.20 20.00 6.96 69.40 69.40 00.00 00.00 00.00 00.00 00.00 30.00 10.00 22222 mer mer 555555555 DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL, FILT REAC. NITROGEN-TOT-KJEL, UNP.TOT BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND (-LOCKH+(CONCN))
RESIDUE, PARTICULATE
RESIDUE, PARTICULATE
NESIDUE, PARTICULATE
NITRIFE, FILT. REACT. STRONTIUM, UNFILT. TOTAL CHROMIUM, UNFILT. TOTAL ALUMINUM, UNFILT. TOTAL MERCURY, UNFILT. TOTAL LEAD, UNFILT. TOTAL SELENIUM, UNFILT. TOTAL CONTAMINANT NAME COPPER, UNPIL, T. TOTAL ZINC, UNI-IL T. TOTAL CONVENTIONALS

NNHTIFR

BODS

DOC

PH RSP RSPLOI NNO2FR

METALS

CONTAM.

94.6 40.5 86.5 3.45 3.72 1.78 2.05 25.59 0.02 9.19 0.13 51.8 10.1 42.9 167 214 275 276 20.0 80.0 87.00 0.04 18.40 0.03 333 ug. SASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS 24-DICHLOROPHENOXYAGETICACID GAMMA-BHC(HEKCHLORCYCLHEXANB) SILVEX VOLATILES ORGANIC COMPOUNDS COBALT, UNFILT. TOTAL PESTICIDES, HERBICIDES, PCBS M-CRESOL, PHENOL PMMCRE P324D P1BHCG P3SILV PMPHEN ALUT CCUUT SRUT ZNUT CRUT CRUT SEUT

37.8

202

1.85

26.00

26.32

15.7

20.0

79.00

79.00

ng/

M-, AND P-XYLENES

**B2MPXY** 

	GLOBAL % PREV.		10000	7.76	100.0 100.0 100.0 100.0 100.0 85.7 85.7 85.7 11.4	71.4 57.1 42.9 14.3	98	85.7 85.7 57.1	85.7 85.7 85.7
	GLOBAL GI SPREAD % FACTOR		203 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1.85 2.42 2.83 2.84 3.64 3.64 1.54 1.54 1.56 1.56 1.56 1.56 1.56	2.97 2.10 1.60 1.38	333	2.28 4.96 2.19	5.84 3.42 3.05
	PLANT G SPREAD S PACTOR P		111111111111111111111111111111111111111	691	0.00 2.42 1.07 1.23 1.69 1.79 1.33 1.33	3.03 1.39 1.57 2.48	00'0	1.38	2.77
	GEOBAL GEO. S MEAN P		48.40 108.54 12.80 10.46 15.36 6.88 28.57	8000	18.20 0.05 304.90 69.80 850.00 10.80 6.40 250.80 20.80 16.50	3.90 1.42 1.78 1.05	0.25	0.02	4.39 1.83 1.94
Final Emuent Wet Weight	FLANT G GEO. MEAN		106.11 186.22 10.67 12.71 18.83 6.97 77.58	900	30.00 0.09 70.00 210.00 10.00 10.00 20.00 20.00 20.00	4.87 1.16 1.83	1.40	0.02 0.12 0.04	2.08 1.20 1.23
·· ··	GLOBAL % FREQ. DET.		100.0 100.0 100.0 100.0 100.0 100.0	17.3	87.5 97.8 97.9 100.0 95.8 60.4 16.7 37.5 22.9 22.9 22.9 22.9	46.2 20.5 12.8 2.6	25.0	725 675 725	55.3 26.3 34.2
SAMPLING TYPI SAMPLE FORM	GLOBAL # DET.		\$ \$ \$ \$ \$ \$ \$ \$ 5		28 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	* * * * =	2	27 27 9	21 10 13
SAN	GLOBAL #		\$ \$ \$ \$ \$ \$ \$ \$	ę	a 50 th	8 8 8 8 8 8 8	**	0 0 0	38.8
	PLANT % FREQ. DET.		100.0 100.0 100.0 100.0 100.0 100.0	20.0	100.0 100.0 100.0 100.0 83.3 50.0 33.3 16.7 16.7	80.0 20.0 20.0 20.0	100.0	100.0	40.0 20.0 20.0
	PLANT # DET.		, พพพพพพพพพ	-		e	pre .	AT NO FEE	a
	PLANT # SAMPLES		***********	en.	~ v @ & & & & & & & & & & & & & & & & & &	N N N N N	-	N N N	NJ NJ NJ
			139.00 222.00 11.20 14.20 20.50 7.03 111.00	0.15	30.00 0.36 70.00 70.00 470.00 10.00 10.00 10.00 50.00 30.00	14.60 2.10 4.10 7.60	1.40	0.03	8.20 2.50 2.80
	PLANT PLANT MIN, CONC, MAX, DET, > DL CONC.		94.60 158.00 10.30 17.50 6.93 53.00	0.15	30.00 60.00 1 \$0.00 1 10.00 1 10.00 1 10.00 1 10.00 1 10.00 1 10.00 1 10.00	7.00 2.10 4.10 7.60	1.40	0.00	4.70 2.50 2.80
er Bay				ONT-MOE	ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB	NYS-GUL. ONT-MOB NYS-GUL	ONT-MOE	ONT:MOB ONT:MOB	NYS-GUI. NYS-GUI. ONT-MOB
PLANT NAME :Thunder Bay PLANT TYPE :Primary	STD. FOR STD, REF. SURFACE WATER			0.00	5.00 0.20 3750.00 30.00 75.00 100.00 0.10 5.00 25.00 100.00	\$0.00 1.00 \$0.00	150.00	00.0	0.70 \$0.00 100.00
NAM	UNITS QC CODE		0000000	0	000000000		-	~ ~ ~	gard glad gamb
TNA	INITS		22222 22 22222 22	me Z	3333333333	NO TOTAL	3	333	333
PLA						NLE COMPOU			
	CONTAMINANT NAME	DNALS	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL FELT REAC. WITROGEN-TOT-KLEL, UNF.TOT (LOG(H+(CONCN)) RESIDUE, PARTICAL ATE BESIDUE PARTICAL.	PHENOLICS (4AAP)	COPPER, UNPILT, TOTAL STRONTUM, UNPILT, TOTAL ZINC, UNPILT, TOTAL ALJMINUM, UNPILT, TOTAL ALJMINUM, UNPILT, TOTAL CROMBILIM, UNPILT, TOTAL CADMILIM, UNPILT, TOTAL LEAD, UNPILT, TOTAL LEA	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS PMANCRE M-CRESOL UBAL UBAL PMBHP BUTYLBRIXYLMTHALATE UBAL PMPHUO FLUORENE UBAL	DIOXINS AND FURANS P98CDD OCTACHLORODIBENZODIOXIN	PESTICIDES, HERBICIDES, PCBS PIBHCG GAMMA-BHCGHEXCHLORCYCLJ (EXANG) P3AD 24-DICHLOROPIENOXYACETIC ACID P3SILV SILVEX	VOLATILES ORGANIC COMPOUNDS XITETR TETRACHLOROFITYLENE BZMPXY M., AND P-XYLENES BZOXYL O-XYLENE
	CONTAM. INANT	CONVENTIONALS	BODS COD DOC NNITTPR NNTWR PH RSP	PHENOL	CUUT NIGUT SRUT ZNUT ZNUT ZNUT ZNUT ZNUT ZNUT ZNUT COUT COUT COUT SEUT	BASE NEUT PMMCRE PMBBP PMPHEN PMPLUO	DIOXINS AT	PESTICIDE PIBHCG P324D P3SILV	VOLATILE XITETR B2MPXY B2OXYL
					A-28-9				

PLANT NAME: Thunder Bay PLANT TYPE: Primary

SAMPLE FORM: Dry Weight

GLOBAL. % PREV. 100.0 100.0 100.0 100.0 100.0 94.4 97.1 97.1 97.1 97.1 97.3 97.3 97.3 97.3 97.9 97.9 85.3 38.2 38.2 67.7 47.1 33.4 35.9 35.9 35.9 GLOBAL SPREAD FACTOR 3.00 3.19 2.23 3.10 3.10 3.10 1.10 8 PLANT SPREAD FACTOR 000 000 GLOBAL GEO. MEAN 5.50 7.40 8.90 7.20 5.00 5.00 47.30 5.60 6.13 9.74 9.29 301.43 606.31 2.23 5.80 59.17 3.04 231.70 905.39 116847.30 892221.45 5911.32 25.44 36897.85 6.03 82.34 32783.51 20803.05 8.50 GEO. MEAN 2.45 31.47 163.17 338.00 245 256.41 20.98 221.45 2.10 36.13 22144.50 230 230 230 230 230 230 4.70 116.60 22.156 16.32 85800.00 6.30 86480.19 6.48 GLOBAL % FREQ. DET. 997.9 97.9 90.0 90.0 90.0 88.9 98.0 93.0 93.0 93.0 98.0 98.0 98.0 98.0 98.0 98.0 82.3 50.0 355233533 GLOBAL. DET 12 222222222 SAMPLES GLOBAL 9 5555555555 PLANT % FREQ. DET. 0.000 0.00 0.00 PLANT DET. SAMPLES PLANT UNITSQA/QC PLANT PLANT (DRY CODE MIN. CONC. MAX. DET. WEIGHT) > DL CONC. 245 256.41 20.98 221.45 210 36.13 118881.10 230 4.70 230 5.80 3.50 2.30 4.70 116.60 4860.14 21.56 22727.27 6.48 16.32 85800.00 46800.00 13.40 2.45 31.47 163.17 6.30 586480.19 22144.50 2.45 31.47 163.17 338.00 2.45 256.41 20.98 221.45 230 230 230 350 230 4.70 230 230 230 230 21.56 16.32 85800.00 46800.00 6.30 586480.19 4860.14 6.48 ueks ueks 222222 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS GAMMA-BHC(HEXCHLORCYCLJHEXANE) ALPHA-BHC(HEXCHLORCYCLHEXANE) BETA BHC (HEXCHLORCYCLHEXANE) OCTACH ORODIBENZODIOXIN AMMONIUM, TOTAL FILT REAC. MOLYBDENUM, UNFILT TOTAL CHEMICAL OXYGEN DEMAND NITROGEN-TOT-KUEL, UNF. TOT VITRATES, TOTAL, FILT. REAC. RESIDUI: TOT.LOSS ON IGNI. COBALT, UNFILT. TOTAL. STRONTIUM, UNFILL TOTAL ALUMINUM, UNFILT FOTAL. CADMIUM, UNFILT TOTAL. MERCLIRY UNFILL TOTAL NICKEL, UNTIL L'TOTAL. SELENIUM, UNFILT. TOTAL. CONTAM. CONTAMINANT NAME ARSENIC, UNFILT TOTAL HEXACITIOROBENZIENE COPPER, UNFILT TOTAL. HEPTACHE, OREPOXIDE SILVER, UNPILT TOTAL LEAD, UNPILIT FOTAL. ALPIA CTRORDANE PESTICIDES, HERBICIDES, PCBS ZINC, UNHIL'T. TOTAL. PHENOLICS (4AAP) (-LOG(IH-(CONCN)) RESIDAJE, TOTAL. M-CRESOL, PIENOL DIOXINS AND FURANS DIEL DRIN OCCUPATION OF SILVEX PP DDE CONVENTIONALS PMMCRE PMPIEN METALS P98CDD NNTKUR PIBLICG PROTES. PREFERE PREFERE PHHICA PICHA PLPMDE P3SII.V X2HCB INANI NULLIN NNOTER PH PHINOL RST RSTLOI PLBIKCH AGUT ALUT ASUT CRUT MOUT CDIT HGUT SEUT PIN. COO

PLANT	NAME		Thunder Bay	
PLANT	TYPE	••	Primary	

SAMPLING TYPE: Treated Sludge SAMPLE FORM: Dry Weight

CONTAM	CONTAMINANT NAME INANT	(DRV CO	UNITSQA/QC PLANT (DRV CODE,MIN. CONC.) EIGHT) > DL	T PLANT INC. MAX. DET. L CONC.	PLANT # SAMPLES	PLANT PET.	% FREQ. DET.	GLOBAL.	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GEOBAL GEO. MEAN	PLANT SPREAD PACTOR	GLOBAL SPREAD FACTOR	GLOBAL.	
CONVENTIONALS	TONALS															1
COD	CHEMICAL OXYGEN DEMAND	merke	0 676190.48	8 676190.48		1	0.001	36	36	0.001	676190.48	508097.94	0.00	4.65	0.001	
NNITTE	AMMONIUM, TOTAL, FILT REAC.		0 8500.00				100.0	2 %	23	100.0	8500.00	17658.28 42.68	0.00	2.92	100.0	
NNTKUR	NITROSEN TOT KUEL, UNP. TOT		255	25.			100.0	64	49	100.0	25595.24	38494.12	0.00	1.71	100.0	
PIL	(-LOG(H-(CONCN))		7.39	7.39			100.0	47	41	100.0	7.39	7.17	0.00	00.1	100.0	
RST.	RESIDUE, TOTAL			2			100.0	20	000	100.0	84000.00	80434.04	0.00	3.23	100.0	
KSTI.OI	KESIDUE, TOT LOSS ON IGNI.	mg/kg	0 37700.00		<b>-</b>	-	100.0	00	20	0.001	37700,00	43379.33	0.00	3.19	100.0	
METALS																
AGUT	SULVER, UNITED TOTAL		0 19.05	50.01	più p		0.000	13	4 5	0.001	19.05	37.78	0.00	2.33	100.0	
ASUT	ARSENIC UNED T. TOTAL	me/ke					100.0	2 2	69	98.0	4.76	540	8 8	2.06	97.1	
CDUT	CADMIUM,UNFILL TOTAL				-	-	0.001	45	+	1.19	2.62	10.47	0.00	3.98	90.3	
COUT	COBALL UNFILT FOTAL				, ma	-	0.001	39	32	82.1	35.71	9.14	0.00	2.75	85.7	
CKET	CHROMIUM,UNFILL TOTAL		0 250.00			,	0.000	2 :	20	0.000	250.00	333.06	0.00	3.39	0.000	
HGIT	MEDITAL DISTAL	me/ke		001			0.001	9	40	98.0	1 90	124	000	2.16	5 6	
MOLT	MOLYBINING MUNICIPAL TOTAL		_			-	100.0	7.	23	67.7	83.33	6.41	0.00	2.84	69.2	
- EZZ	NICKEL, UNBLITTOTAL.				-	_	100.0	45	42	93.3	20.24	72.95	00.0	2.95	0.06	
PBUT	LEAD, UNFILT TOTAL.		0 178.57		-	-	100.0	20	49	0 86	178.57	196.62	0.00	2.46	97.1	
SELT	SELENROM, UNITETTOTAL.				_	-	100.0	20	3	0 96	1.43	2.67	000	2.98	97.1	
SRUT	STRONTIUM, UNI-BLE TOTAL. ZINC, UNI-BLE TOTAL.	mg/kg mg/kg	35.71	35.71			100.0	S S	20	100.0	369.05	240.93 988.90	0.00	2.57	100:0	
BASE NEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SOUNDS														
od dyna	COLUMN CANADA A 193		75 4 1001				0001	S		0 7 1	10314 30	1014 00	000	6 33		
PMMCRE	M-CRESOL.	2 % %	1 17857.10	0 17857.10			100.0	2000	15	30.0	17857.10	5281.80	0.00	8.20	35.3	
PESTICIDA	PESTICIDES, HERBICIDES, M. B.S.															
DIDDON	TANA GO		971		-		0001	Ş	77	0 89	140	91 11	000	3.73	71.6	
P324D	2,4-DICHLOROPHENOXYAGETIC ACID	2 2	3 58.30				100.0	20 05	* \$2	80.0	58.30	75.00	0.00	5.81	64.7	
P3SILV	SII.VI:X	ug/kg	3 166.70	_	-	-	100.0	50	18	36.0	166.70	92.70	000	2.94	1.1	
X2HCB	HEXACID OROBENZENE	ug/kg	3.60		_	-	100.0	20	21	45.0	3.60	7.00	000	2.96	55.9	

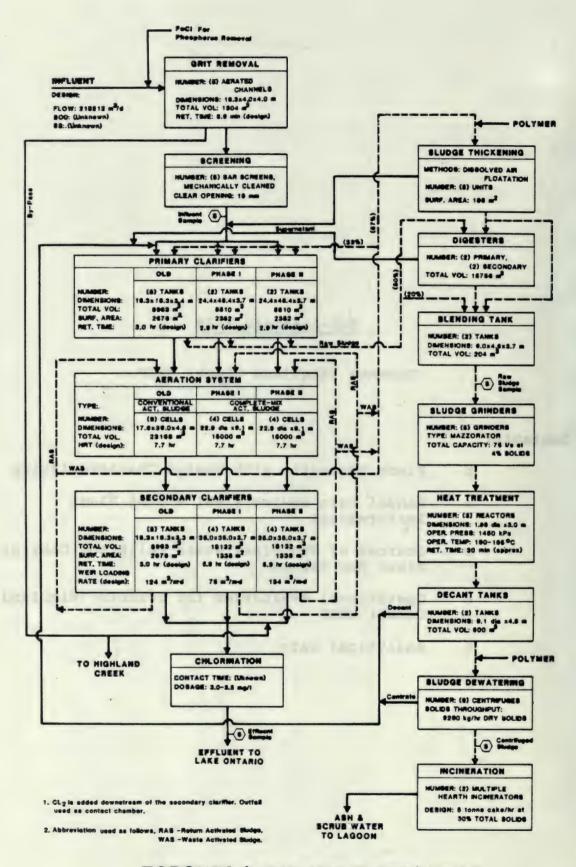
` 41.17

# Sub-Appendix A-29

Toronto (Highland Creek) WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Toronto (Highland Creek) WPCP
- o Analytical Data



# TORONTO (HIGHLAND CREEK) WPCP

HIGHLAND CREEK MPCP (SCARBOROUGH)
Conventional-Activated Sludge
Phosphorus Removal - Continuous
Capacity - 218.208 18(3) m3/day

***************************************	1	1	1	1		: 5 YEAR
	1	1	!	!	!	AVERAGE
PARAMETER	1981	1982	1983	1984	1985	81-85
***************************************						
Avg. Daily Flow (1888 m3/day)	153.20	162.29	162.75	156.89	163.29	159.68
BOD5 - Influent (mg/L)	185.00	195.60	167.08	284.92	181.25	186.75
BOD5 - Effluent (mg/L) Annual BOD5 Significantly Different from Mean	22.68	18.18	19.88	33.92	18.83	22.65
Annual Average 8005?	1.0.	1.0.	1.0.	1.0.	I.D.	1
TSS - Influent (mg/L)	213.68	232,50	269.00	332,42	205,83	258.67
TSS - Effluent (mg/L) Annual TSS Significantly	16.88	11.80	18.00	24.58	16.50	17.52
Different from Mean Annual Average TSS?	1.0.	I.D.	1.0.	1.0.	I.D.	8 8 8
Total P - Influent (mg/L)	6.18	5.98	5.31	5.61	5.46	5.68
Total P - Effluent (mg/L) Annual TP Significantly	1.88	1.84	1.85	8.91	8.77	8.95
Different from Mean Annual Average TP?	i 1.D.	i 1.D.	1.0.	I.D.	: : I.D.	1
TP in Compliance?	Y	1 N	i N	1 Y	Y	Y
	3	1	*	1	8	i

I.D. - Insufficient Data

### SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

# GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE	HIGHLAND CREEK WPCP 120000373 CONVENTIONAL ACTIVATED SLUDGE PHOSPHORUS REMOVAL CONTINUOUS
DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	218.208 172.200 123000
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	22
COMMERCIAL SOURCES (%) (Population x 0.0757)	5
RESIDENTIAL SOURCES (%) (Population x 0.175)	13
UNACCOUNTED FOR, INCL. INFILTRATIO (100-% Contributed from industrial, commercial and residential sources)	N 60
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	874 539 54
DECORTRATON OF MUE MOD E TURNOMBER	C DICCUARCED MO MUE WIDCD

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	SIC	# OF COMPANIES
MISC. CONVERTED PAPER PRODUCTS ELECTRICAL & ELECTRONIC COMPONENTS MACHINERY MFG PRINTING AND PUBLISHING FRUIT AND VEGETABLES	2640-2655 3612-3690 3500-3599 2700-2799 2032-2038	80 165 134

#### TORONTO HIGHLAND CREEK WPCP

TREATMENT FACILITY: Secondary

March 20, 1987 PERIOD ENDING:

SAMPLING SEASON: Winter (Cold Meather)
DESIGN AVG FLOW: 218,212 m3/d

2 2				PRE-SA	MPLING PER	100		
9 9	PARAMETER	DAY 1	DAY 2	DAY 3 :	DAY 4	DAY 5		
	RAN SENAGE FLON	162,300	162,200 :	156,200 ;	163,300	176,600	178,500	181,800
		1	1	1	1	1	1	
	I of Design Flow	74.38%	74.331	71.581	74.84%	80.932:		83.31%
	Influent BOD (mg/L)	140.0			•			130.0
8	Primary BOD (mg/L)	180.0 1					1	150.0
:	Secondary BOD (mg/L)	16.0 !						8.0
1	% PRIMARY REMOVAL	-28.621					1	-15.47
	% SECONDARY REMOVAL	88.621	95.02				1	93.82
9 8	Influent SS (mg/L)	145.0	185.0	150.0 :	145.0 1	190.0	190.0	140.0
8	Primary SS (mg/L)	215.0						175.0
2 0	Secondary SS (mg/L)	27.0 1						14.0
1	I PRIMARY REMOVAL	-48.31						
11-	% SECONDARY REMOVAL	81.4%	93.52	90.71	92.42:	93.71	93.71:	90.01
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL	11.2	9.0	12.8	12.0	1 1 2 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3 3 3 3 1 1	15.0
	Influent TKN (mg/L) Primary TKN (mg/L)	21.4	24.5	24.2	25.6			25.8
	Secondary TKN (mg/L) 2 PRIMARY REMOVAL	16.6	15.8	17.8			1	17.9
4 2	% SECONDARY REMOVAL	22.4%	35.51			1 1	1	30.61
	Influent Total P (mg/L) Primary Total P (mg/L)	4.00	4.50	4.60	4.70	4.70	5.10	4.20
	Secondary Total P (mg/L) 2 PRIMARY REMOVAL	0.80	0.40	0.40	0.40	0.50	0.60	0.60
11	% SECONDARY REMOVAL	80.02	91.12:	91.321	91.5%	89.4%;	88.2%	85.71

NOTE: "Secondary NH4" is actually Ammonia as N (mg/L)

TORONTO HIGHLAND CREEK WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: March 20, 1987
SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVG FLOW: 218,212 m3/d

11				PRE-SA	MPLING PER	IOD		!
11	PARAMETER :	DAY 8 :			DAY 11 :			
11		1	1	:	1	:	1	1
11	RAW SEWAGE FLOW	160,000 ;	176,300 !	161,000 ;	160,900	162,800	164,500	162,800 :
11	% of Design Flow	73.3221	80.792	73.78%	73.74%	74.612	75.39%	
11-	Influent BOD (mg/L)	130.0	140.0 1	150.0 :	130.0 :			130.0 (
11	Primary BOD (mg/L)	190.0 1	175.0 1			1	1	160.0 1
11	Secondary BOD (mg/L)	7.0 :	6.0 :	9.0 :	17.0 !	1	1	11.0 :
11	Z PRIMARY REMOVAL	-46.2%1	-25.0%	-43.371	-80.8%	1	1	-23.12:
11	% SECONDARY REMOVAL	94.621	95.7%	94.0%;				91.5%
11	Influent SS (ag/L)	160.0	185.0	160.0		•	165.0 :	
11	Primary SS (mg/L)	140.0 :	175.0 ;	245.0 1	275.0 1	170.0 1	170.0 ;	135.0 :
11	Secondary SS (mg/L)	12.0 :	11.0 :	10.0 :	9.0 :	10.0 :	10.0 ;	11.0 ;
11	Z PRIMARY REMOVAL	12.5%	5.421	-53.17!	-66.711	-3.0%;	-3.0%:	18.22
11	% SECONDARY REMOVAL	92.5%	94.121	93.71	94.51	93.9%	93.91	93.321
11-	Influent NH4 (ag/L)		i			i	i	
11	Primary NH4 (mg/L)	1	:	;	;	1	1	1
11	Secondary NH4 (mg/L)	15.5 ;	15.0 :	14.4 ;	16.3 1	1	8	16.6
11	Z PRIMARY REMOVAL	1	1	}	- 1	ì	i	1
11	Z SECONDARY REMOVAL		i					
11	Influent TKM (ag/L)	27.7	25.1	25.6	26.9			30.7
11	Primary TKN (mg/L)	1	1	1	1	1	1	1
5 8	Secondary TKN (mg/L)	20.5 1	17.6 1	17.6 1	20.2 1	· ·	1	23.0 1
11	% PRIMARY REMOVAL	1	- 1	1		1	1	
11-	Z SECONDARY REMOVAL	26.0%;	29.91:	31.21	24.921			25.12;
11	Influent Total P (mg/L)	4.4	4.3	4.5	4.4	4.9	4.9	4.4
11	Primary Total P (mg/L)		1			1		
11	Secondary Total P (mg/L)	0.6 :	0.4 :	0.4 :	0.5 :	0.5 :	0.6	0.7 :
	7 PRIMARY REMOVAL	86.47;	00 7*1	01 171	00 /*:	00.0%	07.071	04 171
11.	Z SECONDARY REMOVAL	80.441	90.71	91.1%	88.6%	89.8%	87.8%	84.171

NOTE: "Secondary NH4" is actually Ammonia as N (mg/L)

# TORONTO HIGHLAND CREEK WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: March 20, 1987

SAMPLING SEASON: Winter (Cold Weather)
DESIGN AVE FLOW: 218,212 m3/d

				SAMP	LING PERIO	D	
==	PARAMETER :	DAY 15	DAY 16 1	DAY 17 :	DAY 18 :		
		į	1	- [	1	1	1 1
	RAW SEWAGE FLOW	158,500	157,400 ;	162,500 :	161,500 :	161,800 :	1
	2 of Design Flow	72.641	72.132	74.472	74.012	74.15%	3 1 3 1
	Influent BOD (mg/L)	135.0	145.0	150.0 ;	135.0 :		 !
	Primary BOD (mg/L)	165.0					
	Secondary BOD (mg/L)	10.0					
	Z PRIMARY REMOVAL	-22.2%					1
	% SECONDARY REMOVAL	92.6%	93.81	94.71	93.311		1
	Influent SS (mg/L)	165.0			160.0		
	Primary SS (mg/L)	155.0 1					2
	Secondary SS (mg/L)	8.0 :					9
	Z PRIMARY REMOVAL	6.12:	-190.32:	61.82:	-140.6%	-13.3%	2
	I SECONDARY REMOVAL	95.211	93.51:	91.82:	91.921	92.91	1
	Influent NH4 (mg/L)					1	 1
1	Primary NH4 (mg/L)	1	1	1 2	1	3	2 2
	Secondary NH4 (mg/L)	17.1	17.9 1	16.0 :	15.4 :	8 9	2 8
B k	Z PRIMARY REMOVAL	1	:	1	2	9	1
	I SECONDARY REMOVAL					1	 1
	Influent TKN (mg/L)	26.9	28.3	28.2	28.1		
1	Primary TKN (mg/L)	3	1 1	1	å å		3 9
1	Secondary TKN (mg/L)	20.5 :	22.1 1	18.6 :	19.2 1	7	9 5
1	I PRIMARY REMOVAL	: :			1	3 1	1
1	% SECONDARY REMOVAL	23.81	21.92	34.02	31.72		1
) )	Influent Total P (mg/L)	5.10	4.90	4.70	4.70	6.10	 1
1	Primary Total P (mg/L)	1 1	3	2 2	1	1	2
	Secondary Total P (mg/L)	0.50	0.50 :	0.40 :	0.40 :	0.40 :	9
1	Z PRIMARY REMOVAL	2 3	1	1	3 8	1	1 2
8	Z SECONDARY REMOVAL	90.2%	89.81	91.5%;	91.5%	93.42	1

NOTE: "Secondary NH4" is actually Ammonia as N (mg/L)

# TORONTO HIGHLAND CREEK WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: July 5,1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 218,212 m3/d

				PRE-SA	MPLING PER	IOD		
	PARAMETER	DAY 1 1	DAY 2 :	DAY 3 1	DAY 4	DAY 5	DAY 6 :	DAY 7
==	=======================================		:	1	**************************************	:	:	
	RAW SEWAGE FLOW	201,900	200,900	202,300	203,400	207,000	200,700 :	196,400
	% of Design Flow	92.52%	92.07%	92.71%	93.21%	94.86%	91.97%	90.00%
	Influent BOD (mg/L)	175	140 ;	195	180			
	Primary BOD. (mg/L)	190 :	180 ;	185 1	195 1	3	1	
	Secondary BOD (mg/L)	9 1	6 1	6 1	7 1	1 1	1	
	2 PRIMARY REMOVAL	-8.6 1	-28.6 1	5.1 1	-8.3 :	1	1	
	% SECONDARY REMOVAL	94.9 1	95.7 1	96.9 :	96.1 1	ŧ	1	
	Influent SS (mg/L)	260 :	200 :	255 1	305 ;	190 1	190 :	230
	Primary SS (mg/L)	205 :	270 1	250 1	170 :	235 1		200
	Secondary SS (ag/L)	16 1	12 1	11 1	12	10 1	10 :	11
	Z PRIMARY REMOVAL	21.2 1	-35.0 :	2.0 1	44.3 1	-23.7 1	-23.7 1	13.0
	Z SECONDARY REHOVAL	93.8-1	94.0 1	95.7 1	96.1 1	94.7 1	94.7 1	95.2
	Influent NH4 (mg/L)		- 1	- 1	;	1	i	
	Primary NH4 (mg/L)		;	1 2	;	i	1	
	Secondary NH4 (mg/L)	21.8	14.1 1	17.3 :	19.2 1	1	1	15.0
	2 PRIMARY REMOVAL		5	1	;	;	1	
	Z SECONDARY REMOVAL		9	1	1	1	2 8	
				70.4.1	71.0.1			20 (
	Influent TKN (mg/L)	33.3	25.6	30.1	31.8	i	i	29.1
	Primary TKN (mg/L)	i i	i .	19.8	00 E I	i	i	22.1
	Secondary TKN (mg/L)	25.6	21.1	17.8 i	20.5	i	i	22.1
	7 PRIMARY REMOVAL	i i	17 / 1	34.2	35.5 I	i	i	24.1
	Z SECONDARY REMOVAL	23.1	17.6	34.2 i	72.2 !	!	i	27.1
	Influent Total P (mg/L)	5.5	4.8	5.0	5.4 1	6.0 !	5.1	4.7
	Primary Total P (mg/L)	! 3.3 !	7.01	3.0 1	!	1		
	Secondary Total P (mg/L)	0.70	0.44	0.46	0.44	0.46	0.56	0.52
	% PRIMARY REMOVAL	. 0.70 1	V: TT	V. 70 1	V. 77 I	V1 70 1	1	VIOL
	% PRIMARY REMOVAL	87.3	90.8	90.8	91.9	92.3	89.0 :	88.9

NOTE: "Secondary NH4" is actually "Ammonia as N (mg/L)".

# OPERATIONAL EVALUATION FOR: HISHLAND CREEK NPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: July 5,1987 SAMPLING SEASON: Summer (Warm Meather)

DESIGN AV6 FLON: 218,212 #3/d

===:		322222222		*********				
2 2				PRE-SA	MPLING PER	RIOD		1
3 1 3 0 2 0 6 1	PARAMETER	DAY 8 :	DAY Q .	DAY 10 1	DAY 11	DAV 12 1	DAV 17 /	DAY 14
	ייייייייייייייייייייייייייייייייייייייי							
11				!			!	
11	RAW SEWAGE FLOW	209,100 :	207 100 !	214 900 !	218 200	218.200	197 600 !	
11	RHM SEWHOL FLOW	207,100	107,100 1	110,700	210,200	,	111,000 1	100,000
11	% of Design Flow	95.821	94.917	99.407			90.55%	
11	a bi besign tion	1010241	:				1010021	
11-								
11	Influent BOD (mg/L)	160	150 :	165	225		1	255
11	Primary BOD (mg/L)	165						295
11	Secondary BOD (mg/L)	7 1					1	14 1
11	Z PRIMARY REMOVAL	-3.1					8	-15.7
11	% SECONDARY REMOVAL	95.6 1			94.7			94.5
11-								
11	Influent SS (mg/L)	215 1	175 1	245 1	240	185	185 ;	185
2 1		170 :	150 :	180 3	480	200	200 :	180
B 8	Secondary SS (eg/L)	13 1	11 ;	14 :	13	13	13 :	13
1 1	I PRIMARY REMOVAL	20.9 1	14.3 1	26.5	-100.0	-8.1	-8.1 :	2.7
9 8 9 8	% SECONDARY REMOVAL	94.0 1	93.7 1	94.3 1	94.6	93.0 1	93.0 :	93.0 1
11-								
1 1	Influent NH4 (mg/L)	1	1				1	;
3 1	Primary NH4 (mg/L)	1	3 1	1	1		1	1
1 1	Secondary NH4 (mg/L)	19.8	17.9 1	17.9	14.7		1 1	19.2
9 1	7 PRIMARY REMOVAL	1 1	1	8			1	9
11	Z SECONDARY REMOVAL	:	1	1		2	1	1
11-								
11	Influent TKN (mg/L)	28.5	27.5 :	28.2	26.2		1	32.0 1
- 11	Primary TKN (mg/L)	1	1	1		1	1	3 8
1 0	Secondary TKN (mg/L)	24.0 1	22.4 1	20.5	21.0		i	26.9
11	7 PRIMARY REMOVAL		1				1	1
3 3	% SECONDARY REMOVAL	15.8	18.5	27.3	19.8		1	15.9
11-	T-/1 T-1-1 D / - // 1						;	
2 8	Influent Total P (mg/L)	4.8	4.4	4.8	5.5	4.9	4.9 ;	
11	Primary Total P (mg/L)	i i	A 54 1	i	0.00	0.00	i	1
11	Secondary Total P (mg/L)	0.50	0.54	0.66	0.90	0.90	1.06 :	
11	7 PRIMARY REMOVAL	87.5	07 7 1	0/ 7	07 /	01.1	70.4	01.0.1
11	% SECONDARY REMOVAL	i 8/.5 i	87.7 :	86.3	83.6	81.6	78.4 :	81.0 :

NOTE: "Secondary NH4" is actually "Ammonia as N (mg/L)".

### OPERATIONAL EVALUATION FOR: TORONTO HIGHLAND CREEK WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: July 5,1987

SAMPLING SEASON: Summer (Warm Weather)
DESIGN AVG FLOW: 218,212 m3/d

			SAMP	LING PERIO	D		; ;
•••		DAY 16 :					
RAW SEWAGE FLOW		201,400	:	;	1	1	1
:: Z of Design Flow	91.612	92.30%	92.52%	89.091	91.152	87.58%	86.527
::	150 150 16 16 10.0 189.3						
Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) PRIMARY REMOVAL SECONDARY REMOVAL	215 170 15 20.9 93.0	200 : 12 : 8.7 :	14 1	15 ¦ -15.4 ¦	285 : 8 : 8.1 :	190   285   8   -50.0   95.8	
I Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) PRIMARY REMOVAL SECONDARY REMOVAL	16.0	19.2				 	20.5
!! Influent TKN (mg/L) !! Primary TKN (mg/L)	32.0		25.3	26.2	;		33.3
:: Primary TKN (mg/L) :: Secondary TKN (mg/L) :: Z PRIMARY REMOVAL	25.0		23.7	20.1	23		26.2
: Z SECONDARY REMOVAL	21.9		6.3	23.3		,	21.3
!! Influent Total P (mg/L)	5.6	5.1	5.1	4.7	5.0	4.5	4.6
!! Secondary Total P (mg/L)	1.20	1.20	1.10	0.84	0.72	0.72	0.76
:: Z PRIMARY REMOVAL :: Z SECONDARY REMOVAL	78.6	76.5	78.4	82.1 1	85.6 1	84.0	83.5

NOTE: "Secondary NH4" is actually "Assonia as N (mg/L)".

PLANT NAME: Toronto (Highland Creek), PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

CONTAM-	CONTAM. CONTAMINANT NAME	CODI	2		MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL #	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.	
CONVENTIONALS	IONALS																
BODS	BOD, S DAY -TOTAL DEMAND	me/L	0	133.00	232.00		=:	0.001	267	366	988	172.29	140.23	1.21	1.93	100.0	
000	CHEMICAL OX TOEN DEMAND	med.		24.00	65.00	==	==	100.0	202	27.0	1000	11 90	20 70	1.70	1.82	100.0	
NNICTER	AMMONITM TOTAL FILT REAC.	MeA		15.50	20.40	::	=	100.0	275	274	9 %	17.44	15.37	100	091	0001	
NNTKUR	NITROGEN-TOT-KUEL, UNP. TOT	me/		24.70	31.80	=======================================	=	100.0	273	273	100.0	27.23	25.44	1.09	147	100.0	
M	(-LOG(H+(CONCN))			6.54	7.16	11	=	100.0	27.5	275	100.0	6.83	9	1.03	1.05	0.001	
PPCT	PHOSPHORUS, UNFILT TOTAL	mg/L		4.78	6.05	12	12	100.0	248	248	100.0	5.31	5.18	1.10	151	100.0	
RSP	RESIDUE, PARTICULATE	med.		93.40	434.00	= "	= "	100.0	267	266	9.66	162.05	126.88	1.49	1.93	100.0	
NNO2ED	KESEDOE, PAKILOSS ON IGNI.	med		00.50	011	` =		100.0	2 2	A 94	21.5	89.03	100.84	1.21	3.08	100.0	
NNOTER	NITRATES TOTAL FUT REAC	meA	0	0.25	0.30	: :	. •	36.4	27.5	28 28	10.2	000	0.05	2.76	2.13	32.4	
PHINOL	PHENOLICS (4AAP)	meA	0	080	11.00	=	2	18.2	27.5	37	13.5	0.39	0.31	3.19	2.05	37.8	
METALS																	
ALUT	ALUMINUM UNPILITOTAL	we.A.		870.00	3200.00	13	13	100.0	322	306	0.50	1580.00	1000.10	1.43	365	67.3	
CCNFUR	CYANIDE-FREE, UNFILT REAC.	2			00.00061	00	900	100.0	27.1	82	30.3	40.00	1.90	12.43	6.88	32.4	
CULT	COPPER, UNFILT TOTAL	ug/L		280.00	340.00	2	7	100.0	49	48	0.86	310.00	110.60	1.15	2.28	97.1	
11001	MERCIRY, UNFILT TOTAL	2		0.17	0.45	=:	pag (	100.0	283	274	96.8	0.25	0.23	1.35	211	100.0	
SKUI	ZINC HARM T TOTAL	5		200.00	\$90.00	13	2 5	100.0	319	318		220.00	370.70	85.	214	100.0	
CRIT	CIROMITM INFILT TOTAL	200		20.00	000051	11	2 2	92.3	322	237	73.6	20.00	01.12	17	294	0.000	
NICT	NICKEL, UNFILT TOTAL	Z'n		30.00	140.00	13	9	46.2	322	103	32.0	40.00	38.80	1.74	270	7.75	
AGUT	SB.VER,UNFILT.TOTAL	ug/L	0	10.00	20.00	13	\$	38.5	321	82	25.6	10.00	10.40	2.57	255	75.7	
COOL	COBALL ONFILL TOTAL	200		10.00	10.00	5 5	4 (	30.8	322	28	23.5	10.00	9.30	2.08	231	83.8	
PBUT	LEAD, UNPILT TOTAL	2		90.00	120.00	13	6 69	15.4	322	57	17.7	20.00	59.50	144	1.86	51.4	
BACE MEE	PACE METTER A LAND ACTO EVITE ACT BE DECOMINED	SUNI															
BASE NEC	HALLAND ACID EATRACIABLE COMPO	CANO															
PMMCRB	M-CRESOL	Nan.		17.70	236.70	===	= 1	100.0	275	167	60.7	40.30	25.59	224	3.45	86.5	
PMDMP	DINGSTIYT, PISTIALATE	5	4	10.60	15.70	:=	* ~	27.3	275	*	1.5	6.40	5.10	717	1.37	487	
X3PCPH	PENTACHLOROPHENOL, BITTYI BHNZXI MCTILAI ATB	7 m		106.20	120.80	==	~	18.2	275	\$ 12	1.8	18.66	12.94	244	1.42	10.8	
Iddin				04:61	13.40	=	-	7.7	617	*	4.71	3.47	3.83	651	1.00	37.8	
PESTICIDI	PESTICIDES, HERBICIDES, PCBS																
DADAD	24 DIGH OBOBIGNOVXXXXIII ACH			900	****		•	4		, ,					1		
PIBHCB	BETA-BHC (HEXCHLORCYCL JEXANE)	35	1 -	0.04	0.0	==	» «	18.2	276	32	11.6	0.10	0.03	1.75	3.72	35.1	
PIDMDT	METHOXYCHIOR			09.0	1.80	=:	2 .	18.2	276	47	17.0	60.0	0.08	4.16	3.14	43.2	
PIEND2	ENDOSULPAN II		3 6	0.03	0.03	= =		2. 2.	276	163	3.6	0.0	0.02	1.39	2.29	21.6	
PIENDR	ENDRIN	No.	3	0.04	0.04	11	_	9.1	276	~	· ·	0.01	0.01	1.52	75	10.8	
PIPCBT	PCB, TOTAL  24 5-TRICI ORBIGINOXYACIFIC ACID	Les.	7 5	0.21	0.21	= :		1.6	276	42	15.2	0.05	90.0	1.65	2.31	46.0	
X2HCB	IEXACTE OROHITANE	2 2		0.02	0.02	= =		2. 6.	276	27	0.8	0.03	90.0	1.23	99.7	37.8	
		1													9 - 8-4		

Toronto (Highland Creek)	Secondary
PLANT NAME:	PLANT TVPE

		L	
	GLOBAL % PREV.		18.9 29.7 37.8 32.4
	GLOBAL SPREAD FACTOR		1.74 1.75 2.02 1.75 1.82
	PLANT SPREAD FACTOR		4.01 1.32 1.31 1.37 5.98
ewage	GLOBAL GEO. MEAN		23.50 23.50 23.90 22.59
: Raw Se	PLANT GEO. MEAN		21.69 22.52 21.89 33.51
SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight	GLOBAL * FREQ. DET.	12	7.7 11.0 115.7 10.2 5.5
SAMPLI	GLOBAL # DET		21 43 15 15
	GLOBAL **		224
	PLANT FREQ.		32222
	PLANT # DET.		<b>L</b> mmm
	PLANT # SAMPLES	UV.	22222
and Creek)	PLANT MAX. DET. CONC.		53.00 83.00 83.00 98.00.00
nto (Highla Idary	UNITS QC PLANT CODE MIN. CONC. > DL		53.00 83.00 89.00 9800.00
Toro	CODE	94	
PLANT NAME: Toronto (Highland PLANT TYPE: Secondary	UNITS		22323
PLAN	1116		
	CONTAM: CONTAMINANT NAME	VOLATILES ORGANIC COMPOUNDS	1,1,1-TRICHLOROETHANE ETHYLBENZENE M., AND P.XYLENES CHLOROFORM TRICHLOROETHYLENE
	CONTAM- C	LATILESO	BZEBNZ EI BZMPXY M XICHLO CI XITRIC TH
	88	0,	XIX XIX

SAMPLING TYPE : Final Effluent	SAMPLE FORM : Wet Weight	

GLOBAL & PREV.	100.0	1000 1000 4.84	100.0 100.0 100.0 100.0		100.0 100.0 100.0 100.0 85.7 82.1 77.8 67.9 67.9		100.0 96.4 35.7 14.3 50.0		28.6 64.3 10.7 3.6 21.4
GLOBAL SPREAD 9	207	6.98 6.98 8.95 8.77	271 1.05 1.97 2.00 2.71		262 214 2148 3.72 3.60 2.00 1.54 1.54 2.07 1.48		4.71 2.48 2.72 1.24 1.83		1.86 2.18 1.10 1.18 1.55
PLANT SPREAD FACTOR	1.80	2213	102		1.60 1.39 1.55 1.55 2.17 1.68 2.67 1.81 1.81 1.81		288 302 372 149 131		4.54 1.48 1.26 1.26
GEO. GEO. MEAN	21.22	32.80 8.09 3.90 0.22 2.33	7.97 7.10 0.68 10.12 7.47		9003 340,90 53,30 101,70 22,10 9,00 6,40 13,10 6,60 1,30 1,30 1,30 1,30 1,30 1,30 1,30 1,3		0.08 0.02 0.01 0.03		1.18
GEO. MEAN	26.44	16.22 19.03 0.41	23.43 6.93 0.82 17.10 12.49		0.02 200.00 70.00 80.00 10.00 10.00 10.00 10.00 10.00		0.00 0.00 0.00 0.00 0.003		5.07 1.18 1.07 1.07 1.06
GLOBAL % FREQ. DET.	8.8	91.5 91.5 88.2 83.0	100.0 100.0 97.6 99.6 75.3		94.4 1000.0 94.1 94.1 94.1 8.1 10.0 10.0 10.0 10.0 10.0 10.0 10.		78.0 69.2 13.7 2.2 10.1		8.0 16.5 1.3 7.6
GLOBAL PET.	211	220 220	222 224 204 206 219 58		220 267 267 262 196 171 137 65 30 42 65 25		177 157 31 5 23		37 37 118
GLOBAL * SAMPLES	213	220 223 230 230 237	222 224 211 220 77		233 264 264 264 267 267 265 272 272 272 273 267		227 227 227 227		224 224 224 224
PLANT S. FREQ. DET.	100.0	100.0	1000 1000 1000 1000 1000		100.0 100.0 100.0 71.4 71.4 90.1 50.0 28.6 9.1 7.1		83.3 25.0 16.7 8.3		38.3 16.7 8.3 8.3
PLANT PLANT DET.	2.2		123227		24440008714111		0 6 6 1 1		2111
PLANT #	22	22222	7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		2333333303233		22222		12222
PLANT AAX. DET. CONC.	06:39	33.20	25.30 7.14 1.50 26.50 21.30		0.04 600.00 160.00 800.00 40.00 20.00 20.00 20.00 20.00 10.00 10.00 40.00		0.22 0.16 1.20 0.02 0.03		27.00 2.20 2.20 2.20 2.20
PLANT PLANT MIN. CONC. MAX. DET. > DL CONC.	11.10	02.00 12.30 16.30 0.16	21.40 6.74 6.74 0.46 12.60 9.60		0.01 170.00 40.00 70.00 10.00 10.00 10.00 10.00 10.00 10.00 40.00		0.03 0.02 0.02 0.03		4.30 2.60 2.20 2.20 2.00
STD. REV.					NYT-MOB ONT-MOE ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB		ONT-MOB ONT-MOB ONT-MOB NYS-GUL		NYS-GUL NYS-GUL NYS-GUL NYS-GUL
UNITS QC STD. FOR STD. REF. CODE. SURFACE WATER					3750.00 390.00 750.00 100.00 5.00 5.00 5.00 5.00 5.00 5.		0.00 90.00 0.00		\$0.00 0.20 \$0.00 3.00
2000	0	0000	00000		0000000000		m et = = m		
UNITS	The state of the s	3333			2222222222		33333		33333
CONTAMINANT NAME	NALS BOD, 5 DAY -TOTAL DEMAND	CHEMICAL OX YGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL PLT REAC. NITRIPE PILT. REACT.	NITRICARS, IOAL FULL GAAC, NITROGEN-TOT KJEL, UNF. TOT (LOCKIH(CONCN)) KHOSHICKUS, UNF. T. TOTAL RES DUE, PARTCULATE RES DUE, PARTCULATE RES DUE, PARTCULATE		MERCHRY, UNFILT: TOTAL STRONTIUM, UNFILT: TOTAL ALUMRUM, UNFILT: TOTAL ALUMRUM, UNFILT: TOTAL NICKEL, UNFILT: TOTAL COBALT, UNFILT: TOTAL CORREA, UNFILT: TOTAL COPPER, UNFILT: TOTAL COPPER, UNFILT: TOTAL COMPER, UNFILT: TOTAL COMPER, UNFILT: TOTAL COMPER, UNFILT: TOTAL COMPER, UNFILT: TOTAL CADMIDE: PREE, UNFILT: REAC. CADMIUM, UNFILT: TOTAL LEAD, UNFILT: TOTAL	PESTICIDES, HERBICIDES, PCBS	24-DICH OROPHENOXYACFTC ACID GAMMA-BICCIECCHLORCYCL HEXANE) METHOXYCHLOR ALTHA-BICCIERCHLORCYCL HEXANE) SILVEX	VOLATILES ORGANIC COMPOUNDS	CHAOROPORM CHAOROPORM I,1-DICHLOROETTHANE I,1-DICHLOROETTHANE I,1-DICHLOROETTHENE TRICHLOROETTHYLENE
CONTAM	CONVENTIONALS BODS BOD;	COD DOC NNHTFR NNOZFR	NNTKUR NNTKUR PHI PRI RSP RSPLOI	METALS	HGUT SRUT ZNUT ZNUT ALUT ALUT COUT COUT COUT COUT COUT PBUT	PESTICIDES	P32AD P1BHCG P1DMOT P1BHCA P3SILV	VOLATILES	XIIIIT XICHLO XIIICE XIDGLE XITRIC

PLANT NAME: Toronto (Highland)
PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight

GLOBAL % PREV. 93.9 100.0 100.0 100.0 85.3 GLOBAL SPREAD FACTOR 8 222 222 222 223 224 244 354 1.81 12.16 PLANT SPREAD FACTOR 8 2.52 888888222258888 GEO. GEO. MEAN 892221.45 5911.32 25.44 36897.85 6.03 82.34 20347.70 32783.51 20803.05 9.74 9.29 301.43 606.31 59.17 173.99 3.04 93.20 5.50 4.00 45.80 45.80 47.30 47.30 116847.30 GEO. MEAN 15.30 409.40 1383.86 2.11 9.48 38.53 465852.80 27428.96 30749.63 20499.76 132.66 238.65 79.60 10.80 38.50 62.50 39.46 6.32 4.60 8.70 59344.73 GLOBAL % FREQ. DET. 89.6 89.6 80.0 00.0 00.0 00.0 98.0 93.0 93.0 98.0 98.0 98.0 98.0 98.0 82.3 GLOBAL DET 23 37.00 28 37 8 6 GLOBAL SAMPLES 250463465555 222222222 PLANT % FREQ. DET. 0.0001 0.001 100.0 1000 100.0 0000 5000 5000 5000 5000 5000 5000 0.00 DET. SAMPLES PLANT UNITSQA/QC PLANT PLANT (DRY CODE MIN. CONC., MAX. DET. 32.04 17.48 457.52 1502.59 CONC. 401 294.50 60457.52 207.12 28317.15 30900.00 20600.00 650 22.70 388.30 35.60 1113.30 239.50 58.30 245.10 130.72 93.90 50.16 39.22 ug/kg 1 441176.50 491909.40 110.00 14498.38 2.29 13.40 366.34 1274.51 522.90 22.70 6.50 22.70 386.30 35.60 1113.30 58.30 SR.30 , DI. 84.97 26568.63 30600.00 20400.00 29.70 6.07 31.05 \$8252.43 1.94 WEIGHT) \*\*\*\*\* ug/kg BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS GAMMA BHCHEXCHLORCYCLLEXANE) ALPHA-BHC(HEXCHLORCYCLJIEXANE) DELTA-BHC() (BEXCH, ORCYCL) (BEXANE) 2,4-DICHLOROPHENOXYACETIC ACID 2,4,5-TRICLORPHENOXYACETIC ACID SILVEX AMMONIUM, TOTAL, FILT. REAC. OCTACH ORODIBENZODIOXIN CHEMICAL OXYGEN DEMAND NITROGEN-TOT-KJEL, UNP. TOT MOLYBDA:NUM,UNPILT.TOTAL NITRATES, TOTAL, FILT. REAC. PHENOLICS (4AAP) PHOSPHORUS,UNFILT.TOTAL RESIDUE, TOT LOSS ON IGNI. COBALT, UNFILT. TOTAL.
CHROMIUM, UNFILT. TOTAL. STRONTIUM, UNFILL T. TOTAL ALUMINUM, UNFILT TOTAL CADMIUM,UNFILT.TOTAL. MERCURY, UNFILT TOTAL. SELLINIUM, UNTIL T. TOTAL ENDOSULFAN SULPHATE CONTAM- CONTAMINANT NAME ARSENIC, UNFILT TOTAL COPPERUNISIT TOTAL NICKEL UNFILLTOTAL SILVER, UNFILT TOTAL LEAD, UNFILT TOTAL. ZINC, UNFIL T. TOTAL. PESTICIDES, HERBICIDES, PCBS (TOC(H+(CONCN)) MISTHOX YCLILOR RESIDUE, TOTAL H NATI DISCOUNT PCB, TOTAL DIOXINS AND FURANS M-CRESOL CONVENTIONALS PMMCRE METALS NNHTHR P98CDD P3MD P1BHCA P1BHCD NNTKUR PH PHUT PPUT RST RSTLOI PIBLICG PIDMOT PLENDS P3245T P35H.V PIEND2 PIPCBT NANT AGUT ASUT CCDUT CCDUT CCUUT HGUT NIUT SRUT PRUT

		PLANT NAME: Toronto (Highland) PLANT TYPE: Secondary	oronto (High	nland)					SAMPL	E FORM	SAMPLE FORM : Dry Weight	Weight				
CONTAM.	CONTAM: CONTAMINANT NAME INANT		UNITSQA/QC PLANT (DRY CODEMIN, CONC.) WEIGHT) > DI.	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT	PLANT % FREQ. DET.	GLOBAL. # SAMPLES	GLOBAL.	GLOBAL S FREQ. DET.	GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.	
VOLATILE	VOLATILE ORGANIC COMPOUNDS	9														
B2HBNZ	B2HBNZ ETITYLBENZENE (CSH10)	O) ug/kg l	3883.50	3883.50	00		50.0	51	0 9	31.4	1593.20	1345.90	3.53	3.86	26.5	

PLANT NAME: Toronto (Highland)
PLANT TYPE: Secondary

onto (Highland)
SAMPLING TYPE: TreatedStudge
ondary
SAMPLE FORM: Dry Weight

CONTAM-	CONTAMINANT NAME	UNITSQ (DRY C) WEIGHT)	2A/QC CODE M	UNITSQA/QC PLANT (DRY CODE MIN. CONC. M EIGHT) > DL	PLANT MAX. DEF. CONC.	PLANT # 8AMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL.	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
CONVENTIONALS	કર!															
NESS RESS	CHEMICAL, OXYGEN DEMAND INTROGENTOT - (LINE) (-1, CX(1+(CONCN)) PHENOL (CS (4 AAP) PHOSPHORUS, UNPELT TOTAL RESIDUE, TOTAL		00000	65250.00 18000.00 7.00 21.78 37500.02 119626.00	65250.00 19100.00 7.10 45.00 11844160.00 400000.00 240560.00	-000000	- 4 4 4 4 4 4 4	100.0	8844988	8 4 4 4 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	100.0 100.0 100.0 100.0 100.0	65250.00 18541.85 7.05 31.30 666450.43 373630.83	508097.94 38494.12 7.17 43.05 76638.67 80434.04	0.00 1.04 1.67 1.10 1.10 1.10	4.65 1.09 1.09 3.14 3.23 3.19	100.0 100.0 100.0 100.0 100.0
S	SB.VER,UNFB.T.TOTAL. AALUMUUVI,UNFILT.TOTAL.	mg/kg mg/kg	000	76.28	83.09	000		100.0	488	488	100.0	79.61	37.78 10715.94	80.1	233	100.0
200	COBALLIUMER TOTAL COBALLIUMER TOTAL	E E E	000	28.65 28.65 12.61	37.78	100	4 12 12	100.0	35 65	32 4 4	91.1	32.90 14.85	10.47	22.8	3.98	90.3 85.7
202	CHROMIUM,UNFILT.TOTAL. COPPER,UNFILT.TOTAL. MERCARY,UNFILT.TOTAL.	ng/kg ng/kg	000	402.20 1633.24 2.30	544.41 1968.45 2.78	000	000	100.0	50 \$4 80 50 \$4	S & &	100.0	467.93 1793.03 2.53	333.06 732.24 3.24	2 3 3	2.16	100.0
ZZ:	MOLYBIAGNUM, UNFILT TOTAL. NICKEL, UNFILT TOTAL.	mg/kg mg/kg	000	5.85	45.85	000	222	100.0	¥ \$ \$	42 23	93.3	8.19 44.10	72.95	1.06	2.95	2.00
282	FADUM TOTAL. SHENIUM, UNFILTTOTAL. STRONTIUM, UNFILTTOTAL. ZINC, UNFILTTOTAL.	2222	0000	270.00 1.38 156.53 1704.98	2.50 160.46 1747.85	,,,,,	2000	100.0	2888	8 8 8 9 8 9 9 9	96.0 100.0 100.0	291.72 1.85 158.48 1726.28	2.67 2.40.93 988.90	12.22	2.55 2.55 2.55 2.55	97.1 100.0 100.0
ã	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SUNDO		-												
Σ	M-CRESOL,	ug/kg	-	7750.00	58452.70		2	100.0	20	15	30.0	21284.00	5281.80	4.17	8.20	35.3
7	DIOXINS AND FURANS															
=0=	HETACH ORODIBENZODIOXIN OCTACH ORODIBENZODIOXIN HEXACH ORODIBENZODIOXIN	# # # # # # # # # # # # # # # # # # #		4.60 11.50 1.10	32.50 80.00 1.10	888	- 2 2	100.0	\$ \$ \$	10 26 ·	20.4 53.1 4.1	12.20 30.30 0.90	5.00 7.10 2.40	3.94	3.21	23.5 64.7 5.9
œ,	PESTICIDES,HERBICIDES,PCBS															
E K K B E E W E	PP-DDE PCNB ALPHA-BHCCHEXCHLORCYCLHEXANE) BETA BHCCHEXCHLORCYCLHEXANE) PP-DDT PP-DDT 24-DICHLOROPHENOXYACETICACID HEXACTILOROBENZENE			6.00 62.70 77.80 44.90 142.00 46.20 129.20 7.40	9.80 62.70 77.80 44.90 142.00 46.20 129.20 7.40	<b>00000000</b>	~	100.0 50.0 50.0 50.0 50.0	2 2 2 2 2 2 2	34 32 32 34 25 34	68.0 9.1 22.0 38.0 64.0 10.0 50.0 42.0	25.50 11.40 11.40 25.60 25.60 45.00 45.00	11.10 22.60 5.60 8.80 114.10 16.70 75.00	1.41 10.28 6.94 6.94 2.67 2.15	272 1.51 3.00 4.39 4.58 2.14 2.14 5.81 2.96	73.5 14.3 14.3 47.1 67.7 66.7 55.9

	GLOBAL % PREV.		32.4 32.4 32.4 35.3 5.9
	GLOBAL SPREAD FACTOR		7.11 5.59 4.05 4.33 3.28
	PLANT SPREAD FACTOR		1.36 4.46 3.41 6.59 2.59
TreatedSludge Dry Weight	GLOBAL GEO. MEAN		\$16.00 606.50 \$23.50 441.70 272.70
** **	PLANT GEO. MEAN		1151.20 165.00 136.50 217.40 112.30
SAMPLING TYPE	GLOBAL. % FREQ. DET.		28.0 28.0 28.0 4.0 6.0
SAMPL	GLOBAL # DEF		2 4 4 5 5
	GLOBAL # SAMPLES		. 2 2 2 2 2 .
	PLANT % FREQ. DET.		50.0 50.0 50.0 50.0 50.0
	PLANT # DET.		0
	PLANT # SAMPLES		<b>4444</b>
land)	PLANT MAX. DET. CONC.		1432.70 475.00 325.00 825.00 220.00
onto (High ondary	PLANT MIN. CONC. > DL		925.00 475.00 325.00 825.00 220.00
PLANT NAME: Toronto (Highland) PLANT TYPE: Secondary	UNITSQA/QC: PLANT (DRY CODE MIN. CONC. WEIGHT) > DL		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
PLAN	CONTAM: CONTAMINANT NAME	VOLATILE ORGANIC COMPOUNDS	M. AND P.XYLANES ETHYL BENZENE (CBHD) CH GAYT LEV. (CBHD) 1,4 DIGHLOROPENE (CHCE3)
	CONTAM- INANT	VOLATILE	B2MPXY B2FBNZ B2OXYL X1CHLO X214CB

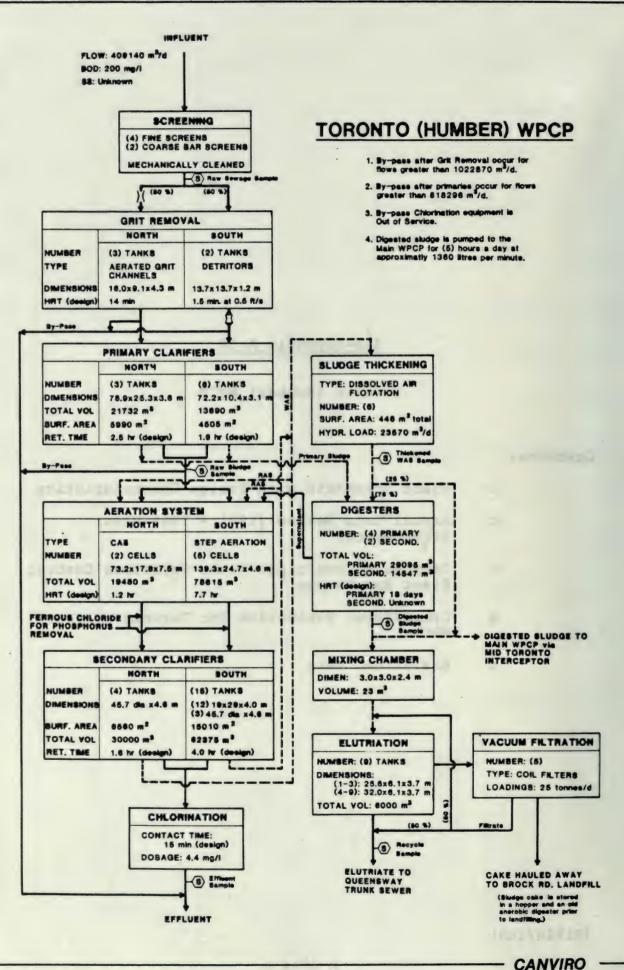
17,171

# Sub-Appendix A-30

## Toronto (Humber) WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- Operational Evaluation for Toronto (Humber)
  WPCP
- o Analytical Data



HUMBER WPCP (ETOBICOKE)
Conventional Activated Sludge
Phosphorus Removal - Continuous
Capacity - 409,140 18(3) m3/day

PARAMETER	1981	1982	1983	1984	1985	5 YEAR AVERAGE 81-85
Avg. Daily Flow (1888 m3/day)	495.96	368.68	365.58	339.55	378.11	371.56
BOD5 - Influent (mg/L) BOD5 - Effluent (mg/L) Annual BOD5 Significantly	255.38	259.00	297.88	266.42	264.88 11.58	266.34
Different from Mean Annual Average BOD5?	i I.D.	i I.D.	i I.D.	i 1.D.	i I.D.	8 8 8
TSS - Influent (ag/L)	348.40	385.00	363.00	385.50	325.58	361.50
TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean	24.28	18.78	22.50	26.25	18.17	21.96
Annual Average TSS?	I.D.	1.0.	1.0.	1.0.	I.D.	
Total P - Influent (mg/L) Total P - Effluent (mg/L) Annual TP Significantly Different from Mean	9.68 1.58	10.48	9.84 1.84	10.88	8.86 1.88	9.58
Annual Average TP? TP in Compliance?	I.D.	1.D.	1.D.	I.D.	1.D.	N

I.D. - Insufficient Data

## SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

# GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE  DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	HUMBER WPCP 120000382 CONVENTIONAL ACTIVATED SLUDGE PHOSPHORUS REMOVAL CONTINUOUS 409.140 393.599 600000
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	19
COMMERCIAL SOURCES (%) (Population x 0.0757)	12
RESIDENTIAL SOURCES (%) (Population x 0.175)	27
UNACCOUNTED FOR, INCL. INFILTRATIO (100-% Contributed from industrial, commercial and residential sources)	N 43
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	1777 1628 60
DESCRIPTION OF THE TOP 5 INDUSTRIE	S DISCHARGED TO THE WPCP

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	SIC	# OF COMPAN	IES
BEVERAGES	2082-20	87	. 18
PRINTING AND PUBLISHING	2700-27	99	162
METAL FINISHING	3411-34	69	218
MACHINERY MFG	3500-35	99	246
PLASTICS MOLDING	3070-30	79	91

## OPERATIONAL EVALUATION FOR: TORONTO HUMBER WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: July 26,1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 409,140 m3/d

8 8				PRE-SA	MPLING PERI	OD		
3	DADAMETER	DAV 4 I	DAY 2 /	DAY 7 1	DAY 4 :	BAV E I	DAY / I	DAY 7
1	PARAMETER							
1			!	!	!	!	!	
1	RAN SENAGE FLON	427.400 1	447.500 1	439,600 :	484.000 :			
	ILIN GENIDE I EUN	1277100	1	1071000 1	1			
1	I of Design Flow	104.462	109.38%;	107.44%	118.30%	1		
1			1	1	1	1	1	
9 9	Influent BOD (mg/L)	250 1	290	310 4	250 (	ŧ	1	150
1	Primary BDD (mg/L)	150 :	195 ;	145 1	215 1	1	1 1	120
8	Secondary BOD (mg/L)	3 1	14 1	7 :	9 :	1	1	8
8	2 PRIMARY REMOVAL	40.0 ;	32.8 ;	53.2 ;	14.0 1	5 1	1 1	20.0
1	% SECONDARY REMOVAL	98.8	95.2	97.7 :	96.4 :		i	94.7
1	Influent SS (mg/L)	460	445	575	370 :	320	190	
8	Primary SS (mg/L)	190 :	150 1	95 :	185	150	160 :	145
2	Secondary SS (mg/L)	7 1	54 1	38 :	22 1	64	23 1	29
8	1 PRIMARY REMOVAL	58.7 1	66.3 1	83.5 :	50.0 :	53.1 1	15.8	54.0
	% SECONDARY REMOVAL	98.5	87.9	93.4 1	94.1	80.0	87.9 1	90.8
	7-/1 MIA //1			;				
1	Influent NH4 (mg/L) Primary NH4 (mg/L)	i i	i	i	i	i	i	
8	Secondary NH4 (mg/L)		9 8	i	1	i	i	
1	Z PRIMARY REMOVAL	1	,	1	1		1 2	
	I SECONDARY REMOVAL			1	1	1	1	
ļ	a occoment: ncinvinc						!	
1	Influent TKN (mg/L)			1				
	Primary TKN (mg/L)	) )	1	1	1	1	2 2	
1	Secondary TKN (mg/L)	:	1		1	1	1 8	
1	Z PRIMARY REMOVAL	1 1	}	1	1	3	1	
8	% SECONDARY REMOVAL	1	1	3 3	1	* 1	3 8	
1-								
		10.9	9.6 1	13.2 {	7.7 1	7.3 :	7.8 :	7.4
1	Primary Total P (mg/L)	1	1	1	8	8	1 2	
8	Secondary Total P (mg/L)	0.32	1.52 :	0.68 :	0.76 ;	2.10 :	1.00 ;	0.52
	I PRIMARY REMOVAL	1	1	1	1	1 1	1	
1	% SECONDARY REMOVAL	97.1	84.2 1	94.8 :	90.1 :	71.2 1	87.2 1	93.0

#### TORONTO HUMBER WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: July 26,1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 409,140 m3/d

					PRE-SA	MPLI	NG PER	100		
	PARAMETER :	DAY 8							DAY 13 1	
=:	======================================		!	 {	!		!			
	RAW SEWAGE FLOW		1 1	521,100 1	408,600	398	,200 !	400,700	365,400	362,400
	% of Design Flow		1	127.361		9	7.332	97.94%	89.312	88.58
-	Influent BOD (mg/L)	195	-	195	250		215			70
	Primary BOD (mg/L)	150		140 ;			160 ;		17.10	70
	Secondary BOD (mg/L)	6	-	5 1			9 1			9
	I PRIMARY REMOVAL	23.1	1	28.2 1	18.0		25.6 1			0.0
	% SECONDARY REMOVAL	96.9		97.4			95.8			87.1
-	Influent SS (mg/L)	390		300	410		485		220	210
	Primary SS (mg/L)	120	1	140 :	185		170 :	140	150 1	100
	Secondary SS (mg/L)	17	1	20 1	33 :		23 :	29	56 1	32
	% PRIMARY REMOVAL	69.2	1	53.3 1	54.9	-	64.9 1	39.1	31.8	52.4
	Z SECONDARY REMOVAL	95.6	1	93.3 !	92.0		95.3 1	87.4	74.5	84.8
_	Influent NH4 (mg/L)		-;-	i						17-1-1
	Primary NH4 (mg/L)		1 1	;			1			
	Secondary NH4 (mg/L)		1	1	1		;	1		
	% PRIMARY REMOVAL		1	1	1		1	1		
	Z SECONDARY REMOVAL		!	!			!		 	
	Influent TKN (mg/L)		1							
	Primary TKN (mg/L)		1	:			;	1		
	Secondary TKN (mg/L)		1	1			:			
	7 PRIMARY REMOVAL		1				1			
	% SECONDARY REMOVAL		1				;			
-	Influent Total P (mg/L)	9.3	-;-	7.4	10.6		9.1	7.4	6.9	5.9
	Primary Total P (mg/L)		3 2	3			1			
	Secondary Total P (mg/L)	0.48	1	0.92 :	1.04		0.92 1	0.92	1.64	0.86
	Z PRIMARY REMOVAL		1	1	1		1		1	
	% SECONDARY REMOVAL	94.8	1	87.6 1	90.2		89.9 1	87.6	76.2 1	85.4

#### TORONTO HUMBER WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: July 26,1987

SAMPLING SEASON: Summer (Warm Meather)

DESIGN AVE FLOW: 409,140 m3/d

			SAMP	LING PERIO	D	*******	*******
	DAY 15 !						DAY 21
	:	1	1	1	1	1	
RAW SEWAGE FLOW	567,900 :		•			403,700	358,100
2 of Design Flow	138.801					98.672	
Influent BOD (mg/L)	185	125	210	395			115
Primary BOD (mg/L)	150 1					1	80
Secondary BOD (mg/L)	5 1	18	5 1	4 :	1	1	2
2 PRIMARY REMOVAL	18.9 :	-12.0 :	40.5 :	49.4 1	1	1	30.4
I SECONDARY REMOVAL	97.3 1	85.6	97.6 :	99.0 :		1	98.3
Influent SS (mg/L)	305	265	310	855	260	185 ;	280
Primary SS (mg/L)	115 1	115 !	115 1	125 :	115 1	130 :	150
Secondary SS (mg/L)	4 ;	7 :	20 1	6 1			9
I PRIMARY REMOVAL	62.3 1						46.4
7 SECONDARY REMOVAL	98.7	97.4 1	93.5	99.3 :	95.4	94.6	96.8
Influent NH4 (mg/L)					i		
Primary NH4 (mg/L)	;	1	8	1	1	1	
Secondary NH4 (mg/L)	1	3	B	1	1	1	
I PRIMARY REMOVAL	1	2		1	ł	1	
% SECONDARY REMOVAL	[	!		!			
Influent TKN (mg/L)	1	1					
Primary TKN (mg/L)	1 1	1	i	;	1	;	
Secondary TKN (mg/L)	1	8	1	i	1	8	
Z PRIMARY REMOVAL	1	1	1	1		1	
% SECONDARY REMOVAL	{			!			
Influent Total P (mg/L)	5.4	6.8	7.2	15.6	5.5	5.5	7.2
Primary Total P (mg/L)	1	2 2	1	1	1 1	3 2	
Secondary Total P (mg/L)	0.34	2.30	0.42 :	0.28 :	0.28 :	0.24 1	0.24
PRIMARY REMOVAL		11.5	1	1	1	;	
: % SECONDARY REMOVAL	93.7 1	66.2 1	94.2 :	98.2 :	94.9	95.6	96.7

# TORONTO HUMBER

TREATMENT FACILITY: Secondary

PERIOD ENDING: February 13, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW:

409,140 m3/d

			PRE-SA	MPLING PER	IOD		
PARAMETER	: DAY 1 :	DAY 2 1	DAY 3 :			DAY 6 !	DAY 7
RAN SEWAGE FLOW	372,100	380,210 :	372,920	381,630	410,000	363,390 1	,
% of Design Flow	90.95%	92.932	91.15%	93.282	100.212	88.821	91.152
Influent BOD (mg/L)	275.0	185.0				1	270.0
Primary BOD (mg/L)	180.0 :	170.0 ;	180.0 :	240.0 1	1	1	190.0
Secondary BOD (mg/L)	4.0 1	6.0 :	13.0 !	19.0 :	:	1	9.0
Z PRIMARY REMOVAL	34.5%	8.12:	16.32:	17.2%	ì	1	29.62
I SECONDARY REMOVAL	98.5%	96.8%	94.021	93.421			96.72
Influent SS (ag/L)	376.0	332.0 :	348.0	240.0	336.0 1	388.0 ;	568.0
Primary SS (mg/L)	152.0 :	100.0 :	220.0 1	182.0 ;	152.0 :	168.0 ;	192.0
Secondary SS (mg/L)	14.0	11.0 :	42.0 1	38.0 1	28.0 (	46.0 1	30.0
Z PRIMARY REMOVAL	59.621	69.91	36.8%	24.221	54.8%	56.7%	66.22
% SECONDARY REMOVAL	96.321	96.7%	87.9%	84.2%	91.7%	88.121	94.77
Influent NH4 (mg/L)	-					;	
Primary NH4 (mg/L)	1	1	1	1	:	ŧ	
Secondary NH4 (mg/L)	1	1	1	1	1	1	
% PRIMARY REMOVAL	1	;	1	1	1	1	
% SECONDARY REMOVAL	1	:	1	1	1		
Influent TKN (mg/L)	[						
Primary TKN (mg/L)							
Secondary TKN (mg/L)							
Z PRIMARY REMOVAL							
% SECONDARY REMOVAL							
	· {						
Influent Total P (ag/L)	10.00	9.80	9.00	7.40 :	10.00 ;	8.60 :	8.20
Primary Total P (mg/L)		1		1	1	1	
Secondary Total P (mg/L)	0.30	0.50 ;	2.20 :	2.70 :	0.80	0.90 ;	0.40
Z PRIMARY REMOVAL		1	1	1	1	1	
% SECONDARY REMOVAL	97.0%	94.921	75.6%	63.5%	92.0%	89.5%	95.12

#### TORONTO HUMBER WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: February 13, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AV6 FLOW: 409,140 m3/d

				PRE-SA	MPLING PER	100		
		DAY 8						DAY 14
==	::::::::::::::::::::::::::::::::::::::	1	1	2 1		1	;	
	RAN SENAGE FLOW	444,260 :			408,380 ;		341,910 :	334,610
	% of Design Flow		122.75%	128.001	99.8121	82.431	1	
	Influent BOD (mg/L)	290.0	225.0		265.0			
	Primary BOD (mg/L)	265.0 1	195.0 :	265.0 :	210.0 :	1	1 2	240.0
	Secondary BOD (mg/L)	12.0 ;	19.0 :	18.0 ;	18.0 ;	1	4	10.0
	I PRIMARY REMOVAL	8.6%	13.31:	15.9%;	20.81	1	1	20.0
		95.9%;					1	96.7
	*	320.0	372.0 :					
	Primary SS (mg/L)	184.0 1	144.0 ;	208.0 :	196.0	196.0 :	112.0 :	136.0
	Secondary SS (mg/L)	24.0 :	56.0 1	48.0 ;	36.0 1	36.0 1	14.0 ;	16.0
	2 PRIMARY REMOVAL	42.5%	61.32;	64.9%;	25.8%	26.9%	58.81:	
	Z SECONDARY REMOVAL	92.5%	84.91:	91.9%;	86.47	86.6%	94.9%	96.9
•	Influent NH4 (mg/L)							
	Primary NH4 (mg/L)	1	3 3	1	1	1	1	
	Secondary NH4 (ag/L)	1	;	1	1	1	1	
	Z PRIMARY REMOVAL :	1	2	1	1	1	1	
	I SECONDARY REMOVAL :	4	3 3	1	;	*	1	
		{						
	Influent TKN (mg/L)	1 1	1	3	1	1	2 2	
	Primary TKN (mg/L)	9	1	2 2	#	1 8	3 8	
	Secondary TKN (mg/L)	9 8	8 8	1	1	1	1	
	I PRIMARY REMOVAL	8 8	1 1	1	:	1	1	
	Z SECONDARY REHOVAL	1	1	9	3	1 1	2	
	Influent Total P (mg/L)	11.00	8.80	9.20	8.10	7.90 (	9.00	15.00
	Primary Total P (mg/L)		1	1	!	1	!	-4100
	Secondary Total P (mg/L) :		2.90 1	2.70	2.70	0.90 1	1.40	0.60
	7 PRIMARY REMOVAL	1	1	1	!	1	1	7150
	% SECONDARY REMOVAL	94.5%	67.0%	70.7%	66.7%	88.6%	84.4%	96.0

# AU TOTAL MANAGEMENT OPERATIONAL EVALUATION FOR: TORONTO HUMBER WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: February 13, 1987
SAMPLING SEASON: Winter (Cold Weather)
DESIGN AVG FLOW: 409,140 m3/d

1				SAMP	LING PERIO	D		
	PARAMETER	DAY 15	DAY 16 1	DAY 17 (	DAY 18 :	DAY 19	DAY 20   DAY 2	21
==					========			:::
9	RAW SEWASE FLOW	; 344.140 ;	363.800 1	369,270 1	370.080	363.190		
	w. oro. min	1	1	1	1			
1	% of Design Flow	84.11%	88.92%	90.26%	90.451	88.77%	1	
	Influent BOD (mg/L)	220.0	290.0 1	310.0				
	Primary BOD (mg/L)	180.0					1	
	Secondary BOD (mg/L)	10.0						
	7 PRIMARY REMOVAL	18.2%						
	% SECONDARY REMOVAL	95.51		97.4%				
	Influent SS (mg/L)	412.0	324.0 :	210.0	310.0	235.0		
	Primary SS (mg/L)	188.0 1	152.0 :	130.0 :	150.0 :	120.0		
1	Secondary SS (mg/L)	36.0 1	62.0 :	7.0 1	13.0 !	25.0		
8	I PRIMARY REMOVAL	54.4%	53.121	38.17!	51.6%	48.9%		
	% SECONDARY REMOVAL	91.32	80.921	96.721	95.8%	89.4%		
1	Influent NH4 (ag/L)		;					
1	Primary NH4 (mg/L)	1 1	3	;	1		;	
2	Secondary NH4 (mg/L)	1 1	1	1	1	1		
5	Z PRIMARY REMOVAL	: :	8	1	;	1	1	
	% SECONDARY REMOVAL	! ! !						
1	Influent TKN (mg/L)	;	:	1			- 111	
1	Primary TKN (mg/L)	! !	9	1	1	L L	1	
1	Secondary TKN (mg/L)	1	1	1	i	1	1	
3	2 PRIMARY REMOVAL	;	1	1	1			
:	Z SECONDARY REMOVAL	!						
	Influent Total P (mg/L)	9.40	9.00 1	8.70	7.50	8.00		
1	Primary Total P (mg/L)	1	1	1	;			
	Secondary Total P (mg/L)	0.50	0.50 1	2.70 !	1.00 :	1.30		
1	Z PRIMARY REMOVAL	1	}	1				
	% SECONDARY REMOVAL	94.7%	94.4%	69.0%	86.711	83.71		

PLANT NAME: Toronto (Humber) PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

CONTAM- INANT	CONTAMINANT NAME	COD	200	CODE MIN. CONC. 1	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	FLANT GEO. MEAN	GEOBAL GEO. MEAN	PLANT SPREAD PACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.	-1 ×
CONVENTIONALS	IONALS																
BOD5	BOD, S DAY -TOTAL DEMAND	meA		239.00	549.00	<b>00</b> (	<b></b>	100.0	267	266	9.66	328.36	140.23	137	1.93	1000	
COD	CHEMICAL, OXYGEN DEMAND	me/		392.00	1120.00	5h (	D (0	100.0	000	857	7.66	27.72	201.13	1.39	187	0.000	
DOC	DISSOLVED ORGANIC CARBON	THE STATE OF	0 0	21.00	39.30	• 5	. 0	100.0	275	274	80.00	19 62	15.17	1 26	1 60	1000	
NAMEDIA	AMMONIOM, TOTAL FILL MEAC.	me A		30.00	49.70	0 0	01	100.0	273	273	100.0	36.86	25.44	1.17	147	1000	
DIA	CLOCKING CONCINCTON CONTINUE C			6.26	6.80	01	10	100.0	275	275	100.0	09'9	06.9	1.02	1.05	1000	
PPICT	PHOSPHORUS, UNFILT. TOTAL	meA.	0	7.05	12.70	11	11	100.0	248	248	100.0	9.76	5.18	1.20	151	100.0	
RSP	RESIDUE, PARTICULATE	meA	0	22.10	366.00	••	60 (	100.0	267	266	8	206.79	126.88	251	1.93	1000	
RSPLOI PHINOL	RESIDUE, PAR LOSS ON IGNI. PHENOLICS (4AAP)	E E	00	0.60	3.40	10	en en	30.0	275	37	13.5	0.42	0.31	2.50	2.05	37.8	
METALS																	
	The second section of the second section is a second section of the second section of the second section is a second section of the section of the second section of the section of t		•	00 000	310000	:	:	0001	333	306	0 80	1630.00	01,0001	1 60	346	2 200	
ALUT	ALUMINUM UNIT LIGIAL	nev.	0 0	170.00	400.00		==	100.0	322	237	73.6	260.00	51.10	1.29	3.44	80.2	
CULT	COPPIR UNFILTTOTAL	ust	0	200.00	360.00	7	2	0.001	49	48	98.0	270.00	110.60	1.52	2.28	97.1	
SRUT	STRONTIUM, UNFILT. TOTAL	N. San	0	210.00	340.00	=	11	100.0	319	318	1.66	230.00	370.70	1.17	2.14	100.0	
<b>ZNZ</b>	ZINC, UNFILT TOTAL	Ne.	0	540.00	2300.00	en 1	= 5	100.0	322	315	87.8	990.00	211.00	1.68	2.94	100.0	
HGD	MERCURY, UNFILL TOTAL	500	0 0	10.00	260.00	= =	20	8.18	122	76	33.6	20.00	0.50	2.81	200	200	
FUN	NICKEL INFILT TOTAL	1	0 0	90.00	310.00	: :		81.8	322	103	32.0	140.00	38.80	1 99	2.70	2 3	
CCNFUR	CYANIDE-FREE UNFILT REAC.	ne.	0	10.00	60.00	10	. 60	80.0	27.1	82	30.3	10.00	1.90	4.36	6.88	32.4	
AGUT	SR.VER, UNPLITTOTAL.	Les L	0	10.00	40.00	11	90	72.7	321	82	25.6	20.00	10.40	2.11	2.55	75.7	
COUT	COBALT,UNFE,T.TOTAL	2	0 0	20.00	00:00	= :	en c	45.5	322	28	25.5	20.00	930	3.50	231	83.8	
MOUF	MOLY BIDENUM, UNFILT TOTAL	33	00	00:09	00:09	=	٠	9.1	321	4	12.8	20.00	12.40	1.86	1.72	898	
BASE NEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	NDS															
PMMCRE	M-CRESOL.	Les.	-	30.00	456.80	10	10	100.0	275	191	60.7	17.67	25.59	249	3.45	86.5	
PMPHEN	PIGNOL	No.	2	15.80	58.70	10	7	70.0	275	118	42.9	19.22	14.52	211	246	78.4	
PWBBB	NAPITHALENE	22		17.30	17.30	20	7 -	10.0	275	1 9	5.8	5.66	537	1.48	1.47	21.6	
PESTICIDI	PESTICIDES, HERBICIDES, PCBS				•												
P32AD	24-DIGHLOROPHENOXYACETIC ACED		en 0	0.09	0.53	01	9 :	0.09	276	214	2.17	0.09	0.13	4.00	3.72	1000	
PIPCBT	DCB. TOTAL.	ned.	7 6	0.02	0.00	9 9	n m	30.0	276	42	15.2	0.07	0.00	2.00	2.29	4 6	
PUPPINE	PP-DDH	Non.	~ •	0.02	0.03	01	. 71	20.0	276	15	5.4	0.01	0.01	1.48	1.74	24.3	
PINAST	24 S.TBICT ORBATENOX VACABLIC ACID	Ton .	7 (	0.13	0.18	0 0	7 (	0.00	9/1	ی در	5.5	0.03	0.00	1.1/	551	18.9	
PIEND2	ENDOSULPAN II	ue/	7 (*)	0.03	0.03	01	7 -	10.0	276	10	9 6	0.01	0.00	1.42	1.42	21.6	
PIHEPT	HEPTACHLOR	Men	en .	0.04	0.04	10	_	10.0	276	10	3.6	0.01	0.01	1.55	1.48	18.9	
COMMIN	HEXACHI OBOCYCI OBINTADIBNE	W. W.		0.09	0.09	01		10.0	276	o •	2.2	0.01	0.01	2.00	1.38	13.5	
X2124	1,24-TRICHEOROBENZENE	3	n en	0.09	0.09	2 0		10.0	276	38	12.7	0.01	0.00	2.00	2.48	40.5	
X2HCB	HEXACHI OROBENZENB	u.	2	0.02	0.02	10	-	10.0	276	11	4.0	0.01	0.01	1.25	139	18.9	

Raw Sewage	Wet Welght
SAMPLING TYPE : Raw Sewage	SAMPLE FORM :
ANT NAME: Toronto (Humber)	Secondary
PLANT NAME :	PLANT TYPE : Secondar

PLANT 7	PLANT NAME: Toronto (Humber) PLANT TYPE: Secondary	Secondar	(Humber)						SAMPL	SAMPLE FORM : Wet Weight	: Wet W	'elght			
CONTAM: CONTAMINANT NAME	UNITS	UNITS QC PLANT CODE MIN. CONC > MDL	GOC PLANT PLANT CODE MIN.CONC. MAX. DET. > MDL CONC.		PLANT # !AMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
VOLATILES ORGANIC COMPOUNDS															
	.Ved	1 4		00.00	10	9	0.09	274	6	3.3	53.32	21.40	3.53	1.39	10.8
MADY W. AND D.YM FINES	No.	· •		00.00	10	· m	30.0	274	43	15.7	32.77	26.00	234	2.02	37.8
	.Van	-		00.00	10	•	30.0	274	25	9.1	30.41	22.47	216	1.56	24.3
	ne.V.	-		00.00	10	2	20.0	274	30	0.11	26.42	23.50	1.85	1.75	29.7
	New.	1		13.00	10	1	10.0	274	21	7.7	21.59	23.18	1.27	1.74	18.9
XITETR TETRACHLOROETHYLENE	No.	3	6 00.06	90.00	10	-	10.0	274	12	4.4	23.25	21.51	1971	1.53	18.9

PLANT NAME : Toronto (Humber)

SAMPLING TYPE: Final Effluent SAMPLE FORM: Wet Weight

GLOBAL % PREV. 77.8 000.0 000.0 000.0 000.0 88.3 46.4 46.4 60.7 96.4 17.9 50.0 0000 0000 0000 0000 0000 833 55 7.1 14.3 32.1 3.6 3.6 3.6 21 28 19 12 12 13 GLOBAL SPREAD FACTOR 256 214 224 360 360 200 200 200 148 5.3 53833 25.52 5 2 8 6 8 PLANT SPREAD FACTOR 93 13.10 53.30 0.03 22.10 21.22 82.80 8.09 1.90 7.10 10.12 0.07 210 2 8 0.00 1.05 GLOBAL GEO. MEAN 68.18 8.14 111.75 13.65 6.94 0.86 0.10 90.00 90.00 10.00 10.00 20.00 223 2000 108222 GEO. MEAN GLOBAL % FREQ. DET. 99.1 100.0 100.0 100.0 100.0 100.0 14.7 3.1 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0. 3. GLOBAL 222 222 222 222 222 222 223 33 33 52 - 55 E S E E E SAMPLES 228 22222 333333 PLANT % FREQ. 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 0.00 0.000 7==00 mm mm m \* 0 \* 0 0 0 1 m v 4 SAMPLES 99 00000 999999 ~========= \* 0 \* 0 0 0 1 \* v 0 43.30 106.00 10.20 14.20 16.10 1.75 1.75 96.00 0.43 10.00 290.00 170.00 170.00 420.00 MIN. CONC. MAX. DET. > DL CONC. 20.00 10.00 10.00 30.00 2.80 3.00 53.00 5.40 0.03 PLANT 00.00 11.80 6.40 6.40 6.41 6.41 0.33 0.33 0.13 130 2.40 2.40 2.30 2.30 3.00 0.000 PLANT NYS-GUL ONT-MOB NYS-GUL STD. REF. ONT-MOR ONT-MOB ONT-MOB ONT-MOB ONT-MOB DNT-MOB ONT-MOE ONT-MOB ONT-MOB ONT-MOE ONT-MOR ONT-MOB ONT-MOR ONT-MOR BOM-TNC PLANT TYPE : Secondary UNITS QC STD. FOR CODE! SURFACE 0.50 75.00 100.00 0.00 00.01 0.00 0.00 000000000 0000000000 22222 22222 555555 2222 5555555555 55 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS GAMMA-BHC(HEXCHLORCYCLHEXANE) 24-DICHLOROPHENOXYACETIC ACID CONTAMINANT NAME 1,1,1-TRICHLOROETHANE DICHLORODIPLUOROMETHANE DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL FILT REAC. MOLYBDENUM, UNPILT, TOTAL CHEMICAL OXYGEN DEMAND NITROGEN-TOT-KJEL, UNP.TOT CYANIDE FREE, UNFILT REAC. BOD, 5 DAY -TOTAL DEMAND RESIDUE, PARTICULATE RESIDUE, PARTICULATE RESIDUE, PARTICOS ON IGNI. COPPER, UNFILT. TOTAL. STRONTIUM, UNFILT. TOTAL. ALUMINUM, UNFILT. TOTAL CHROMIUM, UNFILT, TOTAL SILVEX 1,24-TRICHLOROBENZENE THTRACH LORORTHYL RNB MERCURY, UNFILT TOTAL CADMIUM, UNFILT. TOTAL. VOLATILES ORGANIC COMPOUNDS NICKEL UNFILT TOTAL ZINC, UNFILT TOTAL LEAD, UNITILITOTAL RESTICIDES, HERBICIDES, PCBS (-LOG(IH-(CONCN)) PHENOLICS (4AAP) ETHYL BENZENB PMMCRE M-CRESOL.
PMNITS NITROBENZENE O-XYLENE STYRENE PP-DDB CONVENTIONALS XITHTR B2STYR XIIIIT XIDCFM DOC CONFUR CONTAM. NUTKUR B20X YL PIBHCO PIPPIDE PSSILV X2124 LNANI HGUT NIUT ALUT CRUT

PLANT NAME: Toronto (Humber)
PLANT TYPE: Secondary

SAMPLING TYPE: Recycle SAMPLE FORM: Wet Weight GLOBAL & PREV. 11.1 77.8 GLOBAL SPREAD FACTOR 10 9 7.58 PLANT SPREAD FACTOR 17.01 3.86 GEOBAL GEO. MEAN 72.30 28798.20 208447.60 58.40 874.70 1814.00 199943.30 41620.20 3112.40 1.68 308.60 429.50 37.50 23.60 4.00 44.20 905.21 3439.26 77.62 146.20 0.41 324.28 6.94 53.83 2242.77 1312.86 4522.72 1.19 0.77 3220.00 2920.00 172840.00 30440.00 680.00 GEO. MEAN 2111 2560.00 30.00 20.00 30.00 0.00 30.00 0.93 6.91 102.02 4153.32 2920.90 4522.72 3268.83 230.00 606.22 0.88 43360.00 GLOBAL % FREQ. DET. 79.3 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 190.0 1 61.4 000.0 000.0 000.0 000.0 000.0 000.0 000.0 000.0 000.0 000.0 000.0 000.0 000.0 000.0 9.1 GLOBAL DET. 8844844444 23 87257852888528858 SAMPLES GLOBAL 2222222222222222 \$ 8844444444 FLANT FREQ. DET. 0.00 90.0 40.00 40.00 40.00 40.00 40.00 40.00 40.00 40.00 PLANT DET. SAMPLES PLANT 10 00000=8 UNITS OC PLANT PLANT CODE MIN. CONC. MAX. DET. 2940.00 52000.00 1180.00 36000.00 12.00 700.00 40.00 40.00 40.00 7800.00 CONC. 4.30 3.70 7840.00 6460.00 400.00 213.50 4.30 0.14 2900.00 42000.00 19630.00 370.00 \$400.00 0.25 200.00 320.00 > VIDI 6.57 16.00 1440.00 1530.00 3240.00 2330.00 30.00 0000000 18 A 33 222222 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS **HEPTACHLORODIBENZODIOXIN** OCTACHLORODIBISNZODIOXIN DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL, FILT REAC. MOLYBDENUM, UNPILT. TOTAL. CYANIDE-FREE, UNFILT. REAC. CHEMICAL OXYGEN DEMAND NITROGEN-TOT-KJEL, UNP. TOT BOD, 5 DAY -TOTAL DEMAND NITRATES, TOTAL FILT. REAC. PHOSPHORUS, UNFILT. TOTAL MAGNESIUM, UNFIL T. TOTAL RESIDUE, PARLOSS ON IGNI. RESIDUE, TOT LOSS ON IGNI. NITRITE, FILT. REACT. PHENOLICS (4AAP) STRONTIUM, UNFILT. TOTAL ALUMINUM, UNFILT. TOTAL CHROMIUM, UNFILT. TOTAL MERCURY, UNFILT TOTAL SELENIUM, UNPILLT. TOTAL CADMIUM, UNFIL, T. TOTAL. CALCIUM,UNFILT.TOTAL ARSENIC, UNFILT TOTAL COBALT, UNFILT TOTAL CONTAMINANT NAME RESIDUE, PARTICULATE COPPER, UNFILT. TOTAL NICKEL, UNFILT. TOTAL. IRON, UNFILT. TOTAL. ZINC, UNFILT. TOTAL PESTICIDES, HERBICIDES, PCBS (-LOG(H+(CONCN)) RESIDUE, TOTAL PCB, TOTAL DIOXINS AND FURANS CONVENTIONALS CONTAM. PMMCRE METALS MOUT CCNFUR SEUT P97CDD PIPCBT NUKUK NNO2FR NATHER NNOTER RSPLOI RST RSTLOI HGGT MGCT AGUT CULT ZNIT FEG.

GLOBAL & FREV.

GLOBAL SPREAD FACTOR

FLANT SPREAD FACTOR

> GLOBAL GEO. MEAN

GEO. MEAN

GLOBAL % FREQ. DET.

GLOBAL

GLOBAL # SAMPLES

PLANT % FREQ. DET.

PLANT PET.

PLANT

UNITS QC PLANT PLANT CODE MIN. CONC. MAX. BET. > MDL CONC.

CONTAM: CONTAMINANT NAME INANT

SAMPLING TYPE: Recycle
SAMPLE FORM: Wet Weight

	88.9	929	77.8	4.44	66.7	66.7	11.1	22	44.4	66.7	44.4	33.3	33.3	9.88	\$5.6	44.4	33.3	33.3	66.7				11.11
	5.21	3.59	4.50	4.17	4.31	2.57	3.22	3.22	3.83	5.08	3.21	3.46	2.50	2.84	2.96	2.82	3.33	3.11	2.86				1.81
	4.47	2.13	2.05	3.53	1.95	2.23	2.10	1.88	2.03	272	1.68	1.25	1.42	2.45	1.55	2.07	1.93	2.07	1.25				2.38
	0.79	0.07	0.43	0.11	0.07	90.0	0.05	90.0	0.07	0.38	0.48	90.0	90:0	90.0	90:0	0.32	90.0	90.0	0.05				20.65
	0.75	0.17	0.46	0.24	0.15	0.16	0.14	0.13	0.14	0.31	1.28	0.11	0.11	0.13	0.11	0.63	0.12	0.13	0.11				29.86
	6.59	38.6	40.9	34.1	27.3	38.6	4.6	6.8	20.5	34.1	13.6	13.6	15.9	7.22	25.0	15.9	6.8	6.8	22.7				4.6
	53	17	18	15	12	17	2	3	6	15	9	9	7	10	11	2	3	3	10				2
	2	1	4	1	1	1	2	2	1	44	7	4	1	4	2	2	1	4	1				14
	70.0	90.0	50.0	40.0	40.0	30.0	20.0	20.0	20.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0				20.0
	7	85	ss.	*	*	3	2	7	2	7	2		-	-	1	1	-	-	_				2
	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10				10
	11.00	0.50	2.50	2.30	0.70	0.80	06.0	0.70	0.80	0.82	3.80	0.20	0.30	1.70	0.40	8.00	0.80	1.00	0.20				220.00
	0.17	0.07	0.18	0.27	0.11	0.40	0.30	0.20	0.30	0.24	3.00	0.20	0.30	1.70	0.40	5.00	0.80	1.00	0.20				100.00
	3	-	6	6	2	2	•	9	3	<b>E</b>	~	-	1	-	-	gent	6	2	-				-
	ug/L	ug/L	ugh	neA	ueA	) ush		LRA	MEAL	ne.	ueA	ne.A.	New	ug/L	Lan.	uel	ne.	MEA	New .				ueA. 1
PESTICIDES, HERBICIDES, PCBS	24-DICHLOROPHENOXYACHTIC ACID	PP-DDE	245-TRICLORPHENOXYACETIC ACID	1.24-TRICHIOROBENZENE	HEXACH OROBENZENE	GAMMA-BHCOTEXCHBORCYCLITEXANE)	ENDOSULPAN II	ENDRIN	HEPTACHLOR	SILVEX	HEXACITIOROCYCLOPENTADIENE	ALDRIN	ALPHA-BHCGEXCHLORCYCLJIEXANE)	BILLA-BHC (HEXCHI ORCYCL HEXANE)	ALPHA-CHLORDANE		_	HEPTACHLOREPOXIDE	PP-DDD		SUNITORNO CENTO SE HELP TON	LES CACAMOCOMICONES	STYBRNE
PESTICI	P324D	PIPPDE	P3245T	X2124	X2HCR	PIRHCG	PIEND2	PLENDR	PHHEPT	V.II.SFQ	XIHCCP	PLALDR	PIBHCA	PIBHCB	PICHLA	PIDMDT	PIENDI	PINEPE	PIPPDD		WOLATER	AOFAIR	ROSTVR

PLANT NAME: Toronto (Humber)
PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight

GLOBAL. 79.4 47.1 55.9 67.7 50.0 20.6 82.3 0000 93.9 100.0 100.0 100.0 100.0 11.8 GLOBAL SPREAD FACTOR 12.16 2.25 1.81 3.19 2.22 2.23 1.10 1.10 1.81 1.81 8 3.49 3.40 3.40 3.40 5.24 5.27 5.50 5.50 PLANT SPREAD FACTOR 22=888282 359138624289 2.51 2.30 2.61 3.89 2.14 1.61 1.02 GEO. GEO. MEAN 3445.60 7296.10 5911.32 25.44 36897.85 6.03 82.34 20347.70 32783.51 20803.05 30.17 6.13 9.74 301.43 606.31 2.23 59.17 173.99 3.04 231.70 905.39 5.80 .50 \$8.70 \$3.00 \$3.20 \$560 \$560 883.85 851.65 220 127.13 224.56 2.20 117.96 3617.18 209451.10 6937.80 10050.70 GEO. MEAN 20.62 47810.52 79.83 20048.43 36045.80 25814.72 3.20 61.00 222.00 7.30 4.80 39.60 6.20 5.71 GLOBAL % FREQ. DET. 89.6 89.6 100.0 100.0 100.0 88.9 100.0 93.0 93.0 93.0 98.0 98.0 98.0 96.0 100.0 100.0 7.8 78.4 45.1 37.3 37.3 37.3 37.3 37.3 37.3 37.3 GLOBAL DET 138 8 B B B B C 1 244524452 SAMPLES 22222222 PLANT % FREQ. DET. 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0. 50.0 50.0 80.0 80.0 80.0 80.0 80.0 0.000 DET. SAMPLES PLANT UNITSQA/QC PLANT PLANT (DRY CODE MIN. CONC. MAX. DET. WEIGHT) > DL CONC. 281690.10 17087.40 14788.70 120.20 183.10 437.20 19.10 8.20 5.50 166.70 6202.19 23.22 49180.33 5.93 101.41 21633.80 36600.00 28000.00 68.31 7650.27 3.28 98.36 98.36 956.28 873.24 140.85 236.62 236.62 236.62 123.50 11.20 3.70 432240,44 155737.70 17087.40 14788.70 4591.55 4591.55 18.31 46478.87 5.50 62.84 18579.24 35500.00 31.00 56.30 112.70 19.10 8.20 5.50 166.70 61.97 2.25 45.07 816.90 830.60 1.91 114.75 213.11 1.97 112.68 3.70 \*\*\*\*\*\*\*\*\* 8x/8n BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS GAMMA-BHC(HEXCHI,ORCYCL)BEXANE) OXYCHLORDANE 24-DICHLOROPHENOXYACETIC ACID HEXACHLOROBENZENE PCB, TOTAL. 2,4,5: FRICLORPHENOXYACTETIC ACID AMMONIUM, TOTAL, FILT REAC, OCTACIB: ORODIBENZODIOXIN NITRATES, TOTAL FILT. REAC. NITROGEN-TOT-KIEL, UNF. TOT CHEMICAL OXYGEN DEMAND ZINC, UNFILT. TOTAL. MOLYBDENUM, UNFILT. TOTAL PHOSPHORUS, UNPILIT TOTAL RESIDUE, TOT LOSS ON IGNI BUTYLBENZYLPITHALATE DIPHENYL ETHER STRONTIUM, UNFILT. TOTAL. CHROMIUM, UNFILT TOTAL ALUMINUM, UNFILT TOTAL. CADMIUM,UNFILT.TOTAL MERCURY, UNFILT TOTAL SELENIUM UNFILT TOTAL CONTAM: CONTAMINANT NAME ARSENIC, UNFILT. TOTAL. NICKEL, UNFILL TOTAL. COPPER, UNFILT FOTAL. SILVER, UNFILT TOTAL. LEAD, UNITITIOTAL GAMMA CHLORDANE PESTICIDES, HERBICIDES, PCBS PHENOLICS (4AAP) (NONOO)+HOOCH) RESIDUE, TOTAL DIOXINS AND FURANS SILVEX CONVENTIONALS PMMCRR PMBBP PMDPE COD NNITTFR NNOTFR NNTKUR METALS PIBHCG PICHLG PIOCHL P324D X2HCB PHI PHINOL. PPUT RST RSTLOI 98CDD P1PCBT P3245T P35ILV NANT 

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight	PLANT GLOBAL GLOBAL GLOBAL FLANT GLOBAL FLANT GLOBAL GLOBAL BEREQ. # # % FREQ. GEO. SPREAD SPREAD % PREY. DET. MEAN MEAN FACTOR FACTOR		50.0 51 10 19.6 1045.40 890.70 2.40 2.60 26.5
	PLANT PLANT PLA # % FF SAMPLES DET. DE		2 1 50
PLANT NAME: Toronto (Humber) PLANT TYPE: Secondary	UNITSQAQC PLANT PLANT P (DRY CODEMIN, CONG. MAX, DET. WEIGHT) > DL CONG. SA		ug/kg 1 1939.90 1939.90
PLANT NAME: Toronto (H	CONTAM: CONTAMINANT NAME UNFI	VOLATILE ORGANIC COMPOUNDS	BZEBNZ ETHYLBENZENE (C8H10)

PLANT NAME: Toronto (Humber)
PLANT TYPE: Secondary

SAMPLING TYPE: TreatedSludge

SAMPLE FORM: Dry Weight

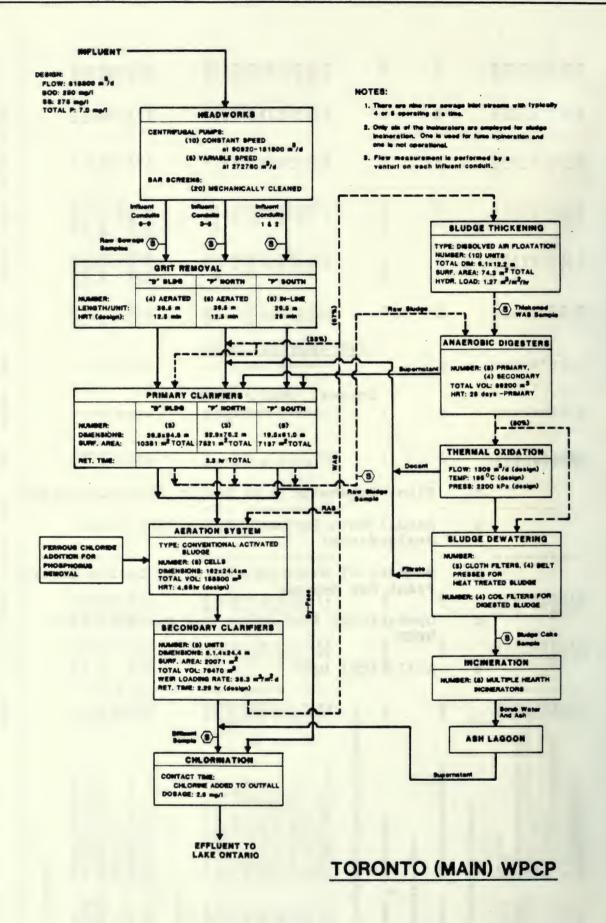
GLOBAL % PREV. 5.9 64.7 61.7 7.3.5 85.9 85.9 17.7 64.1 85.9 85.9 95.0 95.0 100.0 100.0 100.0 100.0 GLOBAL SPREAD FACTOR 22.33 22.58 22.58 22.58 22.58 22.58 22.58 22.58 3.37 3.84 \$225.44 25.02 26.02 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.03 26.0 4.65 2.29 2.29 2.29 1.09 3.14 3.19 3.19 PLANT SPREAD FACTOR 1.11 1.32 2.03 2.03 2.03 2.03 4.73 4.73 4.73 2.52 5.09 2.21 114.10 11.10 84.40 5.70 6.50 4.20 75.00 92.70 14.80 GLOBAL 508097.94 17658.28 42.68 38494.12 7.17 43.05 76638.67 80434.04 7.10 5.40 10.47 333.06 732.24 3.24 72.95 196.62 2.67 2.40.93 988.90 9.14 6.41 3222.10 GEO. 37.78 GEO. MEAN 17789.20 98.20 20.80 158.80 6.90 6.90 8.50 117.70 83.33 84072.07 7.22 63.64 33212.56 20365.41 12508.00 4.68 89.20 1327.59 1308.33 2.95 175.33 286.19 4.50 182.05 172.00 7.53 5.10 186105.82 39042.33 GLOBAL. % FREQ. DET. 4.0 58.0 58.0 58.0 58.0 58.0 58.0 44.0 42.0 98.0 91.1 100.0 100.0 93.3 98.0 96.0 100.0 100.0 82.1 88.5 100.0 100.0 100.0 100.0 53.1 GLOBAL DEF 7 92 232554555555 888444888 SAMPLES GLOBAL 20 4 222244558 % FREQ. 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 0.001 50.0 50.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 PLANT DET. 222222222 SAMPLES UNITSQA/QC PLANT PLANT (DRY CODE MIN. CONC. MAX. DET. 8.40 11.40 12.70 1012.70 257.40 54.90 21.10 105.50 25.30 400.80 5.49 126.58 1814.35 1361.60 3.80 215.19 5.06 200.00 5907.17 CONC. 80.00 38607.59 96.62 333.33 30000.00 8.90 39873.42 101.27 86497.89 286497.89 7.78 23700.00 14900.00 8.40 11.40 12.70 257.40 54.90 21.10 30000.00 > DL 38228.57 68.57 6.70 4.00 62.86 971.43 1257.14 2.29 142.86 245.71 4.00 165.71 3771.43 5.49 19.83 8.90 28571.43 17500.00 000000 WEIGHT) ug/kg \*\*\*\*\*\*\*\* ug/kg 2222222222 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS GAMMA-BHCQIEXCTILORCYCLJIEXANB) 2,4,5-TRICLORPHENOXYACETIC ACID 2,4-DICHLOROPHENOXYACETIC ACID OCTACH ORODIBENZODIOXIN AMMONIUM, TOTAL PILT REAC. CHEMICAL OXYGEN DEMAND MOLYBDENUM, UNFILT. TOTAL NITRATES, TOTAL FILT. REAC. NITROGEN-TOT-KJEL, UNF. TOT PHOSPHORUS, UNPILL T. TOTAL RESIDUE TOT LOSS ON IGNI. SHLVEX 1,2,4-TRICHLOROBENZENE HEXACHLOROBENZENE ALUMINUM, UNPILITOTAL STRONFIUM, UNFILL FOTAL CHROMIUM, UNFILT. TOTAL. COPPER, UNPILITIOTAL
MERCURY, UNFILITIOTAL
NICKES, UNFILITIOTAL SELIENIUM UNFILT TOTAL CADMIUM,UNFILT.TOTAL CONTAM: CONTAMINANT NAME INANT ARSENIC, UNFILT TOTAL. COBALT, UNFILT. TOTAL. SILVER, UNFILT. TOTAL. LAD, UNITETOTAL ALPHA-CHLORDANE ZINC, UNITE L'TOTAL. PESTICIDES, HERBICIDES, PCBS LOGGH+(CONCN) PHENOLICS (4AAP) DIPHENYL ETHER OXYCHI ORDANE RESIDUE, TOTAL. PCB, TOTAL. DIOXINS AND FURANS PP-DDE CONVENTIONALS NNOTER NNTKUR PH METALS PUPCBT PUPPOE P324ST P1BHCG P1CMLA P98CDD NNITHE RST RST OI X2124 X21CB PRINOL. PMIDPE P324D ALUTASUT NICT NICT PRCT SEUT COUT AGUT CRUT CULT

# Sub-Appendix A-31

# Toronto (Main) WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- O Sources of Municipal Water Pollution Control Plant Raw Sewage
- O Operational Evaluation for Toronto (Main) WPCP
- o Analytical Data



MAIN WPCP (TORONTO)
Conventional Activated Sludge
Phosphorus Removal - Continuous
Capacity - 818.28 18(3) m3/day

PARAMETER	1981	1982	1983	1984	1985	5 YEAR AVERAGE 81-85
PHRHIETER	1701	1702	1 1700	1707	!	1 01-07
Avg. Daily Flow (1880 m3/day)	752.36	789.18	737.59	677.25	683.83	712.84
BOD5 - Influent (mg/L) BOD5 - Effluent (mg/L) Annual BOD5 Significantly	197.88	286.88 11.68	224.80	215.42	167.88	292.29
Different from Mean Annual Average BOD5?	I.D.	1.0.	1.0.	1.0.	I.D.	
TSS - Influent (ag/L) TSS - Effluent (ag/L)	204.30 11.70	227.98	268.88 11.83	228.25	195.67	223.22
Annual TSS Significantly Different from Mean Annual Average TSS?	1.0.	1.D.	1.D.	1.D.	: : I.D.	
Total P - Influent (mg/L) Total P - Effluent (mg/L)	5.88 8.88	6.48	5.93 8.89	5.88 8.97	5.85	5.97
Annual TP Significantly Different from Mean Annual Average TP? TP in Compliance?	I.D. Y	i I.D.	1.D.	I.D.	: : I.D. : N	} } }

I.D. - Insufficient Data

#### SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

#### GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP	MAIN WPCP
WORKS NUMBER	120000391
TREATMENT TYPE	CONVENTIONAL ACTIVATED SLUDGE
	PHOSPHORUS REMOVAL CONTINUOUS
DESIGN CAPACITY (1000 m3/d)	818.280
1986 AVERAGE DAY FLOW (1000 m3/d)	976.492
POPULATION SERVED	1200000

#### % OF TOTAL FLOW ATTRIBUTED TO:

INDUSTRIAL SOURCES (%)	8
COMMERCIAL SOURCES (%) (Population x 0.0757)	9
RESIDENTIAL SOURCES (%) (Population x 0.175)	22
UNACCOUNTED FOR, INCL. INFILTRA (100-% Contributed from industrial, commercial and residential sources)	ATION 61

PROFILE OF INDUSTRIES IN CATCHMEN	T	
TOTAL NO OF INDUSTRIES		2488
INDUSTRIES WITH WATER	1.00	1993
NO OF SIC CATEGORIES		63

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	SIC	# OF COMPANIES
PRINTING AND PUBLISHING BEVERAGES APPAREL & OTHR TEXTILES TRANSPORTATION EQUIPMENT PHARMACEUTICAL MFG		9 20 9 318 9 22

#### TORONTO MAIN WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: January 31,1987
SAMPLING SEASON: Winter (Cold Weather)
DESIGN AV6 FLOW: 818,300 m3/d

9				PRE-SA	MPLING PER	100		
1	PARAMETER	DAY 1	DAY 2 :	DAY 3 :	DAY 4	DAY 5	DAY 6	DAY 7
:==						:::::::::		
8		1	1	:	1	- 1	9 8	
8	RAW SEWAGE FLOW	770,000 :	772,000 1	838,000	888,000 :			579,000
8		1	1	*	i	8		
8 8	% of Design Flow	94.102:	94.341	102.412	108.52%	86.0321	72.59%	70.76%
1	Influent BOD (mg/L)	179	,	185 ;	169	,		146
	Primary BOD (mg/L)	204		219			1	227
	Secondary BOD (ag/L)	7 :		7 :			1	5
0	Z PRIMARY REMOVAL	-14.0		-18.4 ;	-32.0 ;	1		-55.5
	1 SECONDARY REMOVAL	96.1		96.2 !	94.7	1	1	96.6
1	Influent SS (mg/L)	258		249				265
# #	Primary SS (mg/L)	522	343 ;	478 :	541 1	459	459 ;	609
9	Secondary SS (mg/L)	20 1	17 1	14 (			15	14
8	I PRIMARY REMOVAL	-102.3 :					-104.0	-129.8
!	% SECONDARY REMOVAL	92.2	93.4	94.4 :	94.0	94.1 1	93.3 !	94.7
•	Influent NH4 (mg/L)			!		,	i	
1	Primary NH4 (mg/L)					1	-	
1	Secondary NH4 (mg/L)	21.1	17.9 1	13.1	18.1	20.2 :	25.8 1	
8 -	1 PRIMARY REMOVAL			1	1	1	1	
!	I SECONDARY REMOVAL			!				
1	Influent TKN (mg/L)	29.9	34.8	23.5	26.8	27.1	27.1	
8	Primary TKN (mg/L)	1 1	1	ì	;	:	3	
8	Secondary TKN (mg/L)	26.3	25.4	21.0 :	23.2 !	2	1	
1	I PRIMARY REMOVAL	1	ì	1	1	3	ì	
2	7 SECONDARY REMOVAL	12.0	27.0 :	10.6	13.4 :	1	1	
-	Influent Total P (mg/L)	5.7	5.0	5.4	5.6	5.1 1	5.7 :	5.7
1		J./ i	7.01	d+7 1	3.0 :	J. I. 1	J. / 1	J. /
1	Secondary Total P (mg/L)		0.40	0.40 ;	0.40	0.50 :	0.50	0.40
1	I PRIMARY REMOVAL	! 1.30	V. 70 1	V. TV 1	V: TV 1	V: JV 1	V 30 1	0.40
	% SECONDARY REHOVAL	91.2	92.0 :	92-6	92.9 1	90.2	91.2	93.0

#### TORONTO MAIN WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: January 31,1987 SAMPLING SEASON:

Winter (Cold Weather)

DESIGN AVE FLOW:

818,300 m3/d

1				PRE-SA	MPLING PER	IOD		
1	PARAMETER			DAY 10 :				DAY 14
1		603,000		636,000	:	1	1	
***	% of Design Flow	73.69%		77.722	79.312	86.642	74.062	68.31%
1	Influent BOD (mg/L) Primary BOD (mg/L)	134	186				1	146 264
	Secondary BOD (mg/L)	7 1	7					10
1	% PRIMARY REMOVAL	-65.7 1	-22.6	-30.5	-68.3 :	:	:	-80.8
 	Z SECONDARY REMOVAL	94.8	96.2	96.0	94.4			93.2
	Influent SS (mg/L)	259	322	231	253	233	239	
1	Primary SS (mg/L)	686	763	495 1	533 :	607 :	607 1	584
1	Secondary SS (mg/L)	18 :	19					18
1	% PRIMARY REMOVAL	-164.9 1	-137.0					-219.1
!	I SECONDARY REMOVAL	93.1	94.1	92.6	92.1	88.8	92.1 :	90.2
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) % PRIMARY REMOVAL % SECONDARY REMOVAL	19.3	20.0			16.2	1	
1	Influent TKN (mg/L) Primary TKN (mg/L)	26.5	32.5	;; i		26.9		
!	Secondary TKN (mg/L) 2 PRIMARY REMOVAL	26.3	27.1			25.7		
 	Z SECONDARY REMOVAL	0.8	16.6			4.5		
1	Influent Total P (mg/L) Primary Total P (mg/L)	5.7	6.9	5.4	5.8	5.8	5.4	5.2
1	Secondary Total P (mg/L) Z PRIMARY REMOVAL	0.50	0.50	0.50	0.60 :	0.50 1	0.60 1	0.50
1	% SECONDARY REMOVAL	91.2 1	92.8	90.7 1	89.7 1	91.4 1	88.9 1	90.4

#### TORONTO MAIN WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: January 31,1987
SAMPLING SEASON: Winter (Cold Weather)
DESIGN AV6 FLOW: 818,300 m3/d

				SAMP	LING PERIO	D		
	PARAMETER	DAY 15 :	DAY 16 :	DAY 17 :	DAY 18 :	DAY 19	DAY 20 :	DAY 21
					========			
		1	1	1	3	1	1	
RAW S	SEWAGE FLOW	696,000 :	750,000 :	734,000 :	758,000 :	845,000	726,000	
		1	:	1	9	9	1	
I of	Design Flow	85.05%	91.6521	89.70%	92.6321	103.267	88.72%	
Influ	ent BOD (mg/L)	114	212 1	145 :	148 ;			
	ry 80D (mg/L)	215						
	idary BOD (mg/L)	9 :						
	MARY REMOVAL	-88.6						
	CONDARY REMOVAL	92.1			94.6	8	1	
Influ	uent SS (mg/L)	245	296	170 1	204	264	262	
Prima	ary SS (ag/L)	380 :	416	915 ;	234 :	597	547	
Secon	dary SS (mg/L)	21 1	20 :	23 :	21 :	15	15 1	
I PRI	MARY REMOVAL	-55.1	-40.5 :	-438.2 1	-14.7 :	-126.1	-108.8 :	
I SEC	CONDARY REMOVAL	91.4	93.2	86.5	89.7	94.3	94.3 !	
	ient NH4 (mg/L)						1	
	ary NH4 (mg/L)	:	1	1 2	1	ł	1	
	ndary NH4 (mg/L)		20.2 1	21.2 1	24.2 :	1	!	
	IMARY REMOVAL		1		:	2	1	
I SEC	CONDARY REHOVAL					!		
	uent TKN (mg/L)		31.7	31.7	25.6	1	1	
	ary TKN (mg/L)		05 (	00.7	20.0		1	
	ndary TKN (mg/L)	,	25.6	29.3 :	29.2 :	i	1	
	IMARY REMOVAL	i i	19.2 ;	7 ( )	-14 1	i	i	
4 351	DUNDHUL KEUDAHF	!! !!	17.2 i	7.6 !	-14.1 :	·	i	
	uent Total P (mg/L)	6.7	10.0	6.9	5.5	7.4	6.8 :	
	ary Total P (mg/L)	;	1	1	8	1	1	
	ndary Total P (mg/L)	0.50	0.60 :	0.50 :	0.50 :	0.60	0.40 :	
	IMARY REMOVAL	1	1	8	1	1	!	
Z SE	CONDARY REMOVAL	92.5	94.0 1	92.8 :	90.9 :	91.9 :	94.1 :	

# TORONTO MAIN NPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: June 21,1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: 818,300 m3/d

			PRE-SA	MPLING PER	10D		
PARAMETER	DAY 1	DAY 2 !	DAY 3 !	DAY 4	DAY 5	DAY 6	
							======
RAW SEWAGE FLOW	859,000	826,000	815,000	750,000			
% of Design Flow	104.97%	100.942	99.601	91.65%			
Influent BOD (mg/L)	150	176 (	192	225	 		165
Primary BOD (mg/L)	197 1		240 ;	302 :	1	1	220
Secondary BOD (mg/L)	23 1	26 !	17 1	25 1		1	15
7 PRIMARY REMOVAL	-31.3 1				1	1	-33.3
Z SECONDARY REMOVAL	84.7 1	85.2 (	91.1 !	88.9 :			90.9
Influent SS (mg/L)	196	300 :	376	304 :	430	430 ;	328
Primary SS (mg/L)	610 1	238 1	270 1	536 1	369 1	369 1	267
Secondary SS (mg/L)	73 1	92 1	27 1	28 1	31 1	19 1	14
I PRIMARY REMOVAL	-211.2 :	20.7 ;	28.2 ;	-76.3 1	14.2 1		18.6
Z SECONDARY REMOVAL	62.8	69.3 :	92.8 :	90.8 :	92.8 :	95.6 :	95.7
Influent NH4 (mg/L)				1		1	
Primary NH4 (mg/L)	1	- 1	- 1	;	1	1	
Secondary NH4 (ag/L)	16.0 1	16.0 1	16.7 1	18.6 1	22.9 :	1	
Z PRIMARY REMOVAL	1	1	1	1		1	
I SECONDARY REMOVAL	!!		; !		!		
Influent TKN (mg/L)	27.8	30.5	34.7 :	33.1 (	33.3 1		
Primary TKN (mg/L)	;	1	;	1		1	
Secondary TKN (mg/L)	22.2 !	22.9 1	25.0 1	23.6 1	26.4	1	
2 PRIMARY REMOVAL			-				
Z SECONDARY REMOVAL	20.1	24.9	28.0 :	28.7	20.7 :		
Influent Total P (mg/L)	5.4	6.2 1	6.9	6.7	7.3 :	4.9	6.8
Primary Total P (mg/L)	:		1	1	1	1	
Secondary Total P (mg/L)	1.80 !	2.10	0.70 :	0.80 1	0.80 1	0.50	0.40
7 PRIMARY REMOVAL			-		1		
% SECONDARY REMOVAL	66.7 1	66.1 1	89.9 ;	88.1 :	89.0 1	89.8 :	94.1

## TORONTO MAIN WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: June 21,1987

SAMPLING SEASON: Summer (Warm Weather)
DESIGN AVG FLOW: 818,300 m3/d

	PRE-SAMPLING PERIOD											
PARAMETER	DAY 8	DAY 9		DAY 11								
	1	1		1	. !	}						
RAN SENAGE FLOW		1		693,000 :	851,000	756,000	723,000					
I of Design Flow		2 2 2		84.691	104.002	92.392	88.357					
Influent BOD (mg/L)	188	265	193	185			138					
Primary BOD (mg/L)	260 1	265 1			1		136					
Secondary BOD (mg/L)	13 :	23 1	30		?	8 1	14					
I PRIMARY REMOVAL	-38.3 1	0.0 ;	-3.6	-49.2 1	\$ 8	2	1.4					
% SECONDARY REMOVAL	93.1	91.3 !	84.5	91.9	1	}	89.9					
Influent SS (mg/L)	327	449	482	300	175	142 :	138					
Primary SS (mg/L)	389 1	391 !		624 1	471	471 1	220					
Secondary SS (mg/L)	19 1	19 1			4 :	4 :	19					
I PRIMARY REMOVAL	-19.0 (	12.9 1			-169.1 :	-231.7 :	-59.4					
I SECONDARY REMOVAL	94.2	95.8	97.1	95.7	97.7	97.2 :	86.2					
Influent NH4 (mg/L)					1	;						
Primary NH4 (mg/L)					1	\$						
Secondary NH4 (mg/L)	23.6	23.6 !	25.0	23.6	22.2	1						
7 PRIMARY REMOVAL	i			1	i	i						
% SECONDARY REMOVAL						i						
Influent TKN (mg/L)	31.9	44.4	44.4	40.3 1	31.9	1						
Primary TKN (mg/L)	. 27 4 4	2/ 4 1	21.4	27.5	07 ( )	1						
Secondary TKN (mg/L) Z PRIMARY REMOVAL	27.1	26.4	26.4	27.8 :	23.6	1						
I SECONDARY REMOVAL	15.0	40.5	40.5	31.0	26.0	i						
A SECONDAN'I NENOVAL		70.3 1	70.0	31.0 1	!	!						
Influent Total P (mg/L)	6.7	8.5	8.6	7.5	5.4	5.3 :	5.2					
Primary Total P (mg/L)		1			1	1	0.1					
Secondary Total P (mg/L)	0.60	0.60 :	0.40	0.40 1	0.40 :	0.50 ;	0.60					
% PRIMARY REMOVAL	1	2 2		1	1	1						
Z SECONDARY REMOVAL	91.0 :	92.9 1	95.3	94.7 :	92.6 1	90.6 1	88.5					

#### OPERATIONAL EVALUATION FOR: TORONTO MAIN WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: June 21,1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 818,300 m3/d

				SAMP	LING PERIO	D		
	PARAMETER				DAY 18 1			DAY 21
		1	1	1	. 1	1	:	
	RAN SEWAGE FLOW	856,000 1						876,000
	% of Design Flow	104.612			104.48%		88.72%	107.05
	1-(1	240	211	277	202			
	Influent BOD (mg/L)	289 1					į	151 234
	Primary BOD (mg/L)	287 i			273 i 15 i			
	Secondary BOD (mg/L) Z PRIMARY REMOVAL	-20.4					i	14 -55.0
		85.0 1					i	90.7
	P DEPOUNDAL VEHICANE	03.01	. 07:0	10.7 1	74.0			70.7
	Influent SS (mg/L)	230 ;	223	363 1	268 :	241	244	251
	Primary SS (mg/L)	579 1					525	515
	Secondary SS (mg/L)	17 1	38 1	20 1	36 !	20 ;	20 1	22
	% PRIMARY REMOVAL	-151.7 1	-49.8 :	-35.5 1	9.0 1	-117.8 :	-115.2 1	-105.2
	I SECONDARY REMOVAL	92.6	83.0	94.5	86.6	91.7 1	91.8 :	91.2
	Influent NH4 (mg/L)							
	Primary NH4 (mg/L)		3	1	;	1	;	
	Secondary NH4 (mg/L)	23.6 1	23.6	22.2 1	1	22.2 1	ł	
	I PRIMARY REMOVAL	1		1	1	1	1	
	Z SECONDARY REMOVAL		1 8				i i	
-	Influent TKN (mg/L)	38.9	38.9	38.9		38.9		
	Primary TKN (mg/L)	1		1	1	1	1	
	Secondary TKN (mg/L)	27.8 1	25.0 :	27.8 1	1	25.0 :	1	
	Z PRIMARY REMOVAL	100.0 :	100.0	100.0 :	1	100.0 }	1	
	Z SECONDARY REMOVAL	28.5	35.7	28.5		35.7		
-	Influent Total P (mg/L)	7.2	5.9	8.0	5.8	8.7	7.4	5.6
	Primary Total P (mg/L)	;	1	}	1	1	1	
	Secondary Total P (mg/L)	0.50 1	0.90	0.60 1	0.60 ;	0.50 :	0.70 :	0.50
	% PRIMARY REMOVAL	1		1	1	;	;	
	% SECONDARY REMOVAL	93.1 1	84.7	92.5 1	89.7 :	94.3 :	90.5 1	91.1

PLANT NAME: Toronto (Main)
PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

CONTAM- INANT	CONTAM: CONTAMINANT NAME INANT	UNITS QC CODE	QC SODE MI	CODE MIN. CONC. M	MAX. DET. CONC.	PLANT	PLANT PET.	FLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GEOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.
CONVENTIONALS	IONALS															
BODS	BOD, S DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND	me/L	00	122.00	301.00	01	010	100.0	267	266	99.6	372.90	140.23	1.31	1.93	100.0
DOC	DISSOLVED ORGANIC CARBON	med.	00	17.80	37.00	0 0	0 0	100.0	27.5	271	0.001	19.77	22.39	1.25	1.81	0.001
NATKUR	NITROGEN-TOT-KIEL, UNP.TOT	S.		29.00	46.50	01	10	100.0	273	273	100.0	36.49	25.44	1.13	1.47	100.0
PH	(-LOG(H+(CONCN)) PHOSPHORUS LINES T TOTAL	meA	00	5.39	7.61	0.0	0 9	100.0	275	275	100.0	6.98	6.90	1.03	1.05	100.0
RSP	RESIDUE, PARTICULATE	T.		175.00	284.00	10	01	100.0	267	266	9.66	209.87	126.88	1.16	1.93	100.0
NNO 24-78	NESIDUE, PAKTOSS ON IGNI. NITRITE, FILT. REACT.		000	0.03	0.03	n <u>o</u> c	n m -	30.0	172	2 8 2	21.4	0.01	0.00	277	2.98	100.0 5.14
THE STATE OF THE S						2				5				104	604	ę.
METALS																
AI.UT	ALUMINUM, UNHILLTOTAL.	Les.		200.00	4130.00	=	11	100.0	322	306	95.0	1890.00	1000.10	144	265	97.3
CRUT	CHROMIUM, UNPRITTOTAL	" Par	00	140.00	340.00	1,	= "	100.0	322	237	73.6	220.00	51.10	1.40	3.44	89.2
SRUT	STRONTIUM, UNITET TOTAL	100		200.00	320.00	7 =	7 =	100.0	319	318	99.7	230.00	370.70	1.14	214	10001
TONZ	ZINC,UNHI,TTOTAL,	2	00	260.00	630.00	==	= =	0.001	322	315	87.8	420.00	211.00	1.41	294	0.001
HOLT	MERCURY, UNFULTIOTAL.	5		0.23	080	01	6	0.06	283	274	8.96	0.47	0.23	1.57	211	100.0
CDUT	CADMIUM, UNFILTTOTAL	2		10.00	10.00	= 5	4 6	36.4	322	76	23.6	00.00	6.50	2.18	2.09	70.3
PBUT	LEAD, UNFILT TOTAL	2 2		80.00	110.00	2 =	n ~	18.2	322	57	17.7	00.09	59.50	1.59	1.86	51.4
AGUT	SILVER, UNFILT TOTAL	ug/l.		30.00	30.00	11	-	9.1	321	82	25.6	20.00	10.40	3.00	255	75.7
BASENEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SOND					٠									
DAMACOU	Conac		-	44 80	160 60	0.	•	0 00	300	147	207	1000	36 60	6		4
PMPHEN	PIENOL.	\$ 5	- 2	15.90	103.80	2 0	0 000	80.0	275	118	42.9	32.00	14.52	2.56	2.46	2.85
PMHHP	BUTYLBENZYLPHTIALATE	No.	- 0	12.40	26.40	01	80 E	20.0	275	£ 4	12.4	9.23	5.85	1.99	1.66	37.8
PNNAPH	NAPITHALINE	3	٠	14.00	18.70	20	n en	30.0	275	91	5.88	7.05	5.37	1.75	1.47	21.6
PESTICIDA	PESTICIDES, HERBICIDES, PCBS															
X2124	1,24-TRICHLOROBENZENE		3	0.17	2.26	10	6	90.0	276	35	12.7	0.27	0.01	4.06	2.48	40.5
P1BHCG P324D	GAMMA-BHC(IBXC)BLORCYCIJBXANB) 2,4-DICHLOROPHBNOXYACETIC ACID		2 6	0.02	0.05	0 01	<b>60 80</b>	80.0	276	143	51.8	0.03	0.02	1.91	3.72	9.8.6
PINCRT	PCB, TOTAL	3	7	90'0	0.27	01	*	40.0	276	42	15.2	0.07	0.06	219	231	46.0
XZHCB	HEY ACHLOROBENZENE	2 2	m (4	0.03	0.03	0 0	e 4	30.0	276	0 :	9.6	0.01	0.0	1.96	1.48	18.9
PICHIA PIDIEL	GAMMA-CHLORDANE DRE DRIN	Z'a	- 2	0.02	0.02	0 0	~ ~	10.0	276	0.0	3.3	10.0	10.0	521	1.49	16.2
P3SII.V	SUVEX	\$	e en	0.13	0.13	01		10.0	276	× ×	10.1	90.0	90.0	1.35	1.68	40.5

	GLOBAL % PREV.	113	37.8
	GLOBAL SPREAD FACTOR	77	202 1.75 1.56
	PLANT SPREAD FACTOR	(1)	239
Sewage	GLOBAL GEO. MEAN		23.50
E: Raw!	PLANT GEO. MEAN		34.66
SAMPLING TYPE : Raw Sewage SAMPLE FORM : Wet Weight	GLOBAL % FREQ. DET.		15.7 11.0 9.1
SAMPL	GLOBAL # DET		262
	GLOBAL # SAMPLES		274
	PLANT % FREQ. DET.		60.0 40.0 20.0
	PLANT # DET.		040
	PLANT # SAMPLES	1111	0 0 0
	PLANT MAX. DET. CONC.		170.00
nto (Main ndary	UNITS QC PLANT CODE MIN. CONC.		\$8.00 43.00 48.00
: Tore	TIS OC CODE		775
PLANT NAME: Toronto (Main) PLANT TYPE: Secondary		s	777
	CONTAM: CONTAMINANT NAME	VOLATILES ORGANIC COMPOUNDS	M., AND P.YYLENES ETHYLBENZENE O.XYLENE
	CONTAM. INANT	VOLATILES	B2MPXY B2EBNZ B2OXYL

A-31-12

(Main)	>
:Toronto	Secondary
NAME	TVPE
PLANT	PLANT

A-31-13

PLANT NAME: Toronto (Main)
PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight

GLOBAL % PREV. 00.00 00.00 00.00 00.00 00.00 00.00 00.00 00.00 92.1 92.1 93.1 93.3 93.3 93.9 93.9 93.9 \$6.0 \$7.3 \$8.2 \$3.3 \$3.3 \$3.3 \$4.2 \$4.2 \$4.2 \$4.2 \$6.0 5.9 GLOBAL SPREAD FACTOR 3.60 1.93 PLANT SPREAD FACTOR 16.70 3.44 2.16 1.12 1.03 0.00 1.24 1.15 1.10 2.24 GLOBAL 892221.45 5911.32 25.44 36897.85 6.03 20347.70 32783.51 20803.05 82.34 GEO. 9.74 9.29 301.43 2.23 5.80 173.99 3.04 231.70 905.39 3026.90 4730 4730 550 550 550 600 8.50 3.00 2.32 62.50 225.22 4.05 116.76 PLANT GEO. MEAN 2843.09 2843.09 14.71 43408.63 6.68 25783.48 113413.40 12.20 77.10 104.60 17.00 4.80 4.80 5.40 5.40 40788.97 24382.17 36.36 8.88 31.64 15.52 707.16 GLOBAL S FREQ. DET. 50.0 89.5 89.5 100.0 100.0 82.0 88.9 000.0 98.0 98.0 62.2 98.0 98.0 98.0 98.0 3.9 392 333 333 353 353 353 353 353 353 GLOBAL 25 DET. 2222238 SAMPLES GLOBAL 200 FLANT % FREQ. DET. 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0. 00.00 50.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 DET. SAMPLES PLANT UNITSQA/QC PLANT PLANT (DRY CODE MIN. CONC. MAX. DET. WEIGHT) > DL CONC. 6803.80 25.32 47008.55 6.91 25783.48 47400.00 26900.00 7122.51 12.03 48.43 18.78 911.68 3.16 2.32 71.23 71.23 71.23 71.23 153.85 304843.30 6.80 14.20 90.70 274.30 25.30 25.30 8.40 10.50 10.50 42194.10 6584.00 78.06 6.55 20.68 12.82 2.85 2.85 2.85 2.85 2.85 3.70 88.61 10.50 65.50 39.90 11.40 8.40 6.30 10.50 10.50 35100.00 22100.00 125.36 1156.95 1188.03 8.55 40084.39 6.46 25783.48 08.61 00 \*\*\*\*\*\*\*\* ugke ugke ug/kg BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS ALPHA BIRCHI-XCHI-ORCYCLHEXANE)
BETA BIRCHI-XCHI-ORCYCLHEXANE)
GAMMA BIRCHI-XCHI-ORCYCLHEXANE)
ALPHA CHI-ORDANE
GAMMA CHI-ORDANE 2,4-DICHLOROPHENOXYACETIC ACID COBALTUNFILTTOTAL CHROMINDINFILTTOTAL MERCIRY JUNEITTOTAL MOLYBEINUM, UNFILTTOTAL NICKEL, UNFILTTOTAL HEPTACHLORODIBENZODIOXIN CHEMICAL OXYGEN DEMAND AMMONIUM, TOTAL FILT REAC. NITRATES, TOTAL FILT REAC. NITROGEN TOT KIEL, UNF. TOT OCTACHI, ORODIBENZODIOXIN PROSPRIORUS, UNPILITATAL. RESIDUE, TOT.LOSS ON IGNI.
PIENOLICS (4AAP) SILVER, UNFILT TOTAL.
ALUMINUM, UNFILT TOTAL. SELENIUM, UNFILLTOTAL. STRONTIUM, UNFILL TOTAL 1,24 TRICHLOROBENZENE CADMIUM, UNFILT TOTAL CONTAM: CONTAMINANT NAME HEXACTH OROBENZENE ARSENIC, UNFILT TOTAL. LEAD, UNIT LTOTAL ZINC, UNI-IL T. TOTAL. PESTICIDES, HERBICIDES, PCBS (-I.OG(II+(CONCN)) RESIDUE, TOTAL. M-CRESOL. CHRYSENE DIOXINS AND FURANS SILVEX CONVENTIONALS PMMCRE METALS COD NNIFIFR NNOTHR PIBLICA PIBLICA PICHLA PICHLA PNCHRY NNTKUR P98CDD P97CDD X2124 X214CB INANI PIDIEL. P324D P3SILV MOUT AGUT ALUT ASUT COUT NILT PPUT

	N.			
	GLOBAL % PREV.	79.4 52.9 47.1		26.5 41.2 23.5 35.3 8.8
	GLOBAL SPREAD PACTOR	3.18 2.31 3.49		2.60 3.86 2.51 4.24 1.90
	PLANT SPREAD FACTOR	5.87 2.91 2.10		2.49 1.76 3.86 7.38 2.33
Sludge	GLOBAL GEO. MEAN	88.70 7.30 48.90		890.70 1345.90 841.60 1225.10 661.30
Raw Dry	PLANT GEO. MEAN	39.80 6.00 62.50		1406.20 16985.50 1096.40 1733.50 767.40
SAMPLING TYPE :	GLOBAL % FREQ. DET.	78.4 43.1 41.2		19.6 115.7 23.5 5.9
SAMPI	GLOBAL.	40 21 21		3228
	GLOBAL,	2 2 2		55555
	% FREQ.	\$0.0 \$0.0 \$0.0		100.0 100.0 50.0 50.0
	PLANT # DET.			00
	PLANT # SAMPLES	888		<b>00000</b>
Œ.	PLANT MAX. DET. CONC.	139.20 12.70 37.00		2678.10 25316.50 2849.00 7122.50 1396.00
onto (Mai	UNITSQA/QC PLANT (DRY CODE MIN. CONC (EIGHT) > DL	139.20 12.70 37.00		738.40 11396.00 2849.00 7122.50 1396.00
Tor Sec	SQA/Q CODI	2-6		
AME	UNITSQA (DRY CC WEIGIFF)	222		35555
PLANT NAME : Toronto (Main) PLANT TYPE : Secondary	CONTAM: CONTAMINANT NAME.	PP-DDI: 24.5-TRICLORPHENOXYACETIC ACID	VOLATILE ORGANIC COMPOUNDS	ETHYLBENZENE (CRHO) M., AND P. XYLENES O.XYLENE (CRHO) CHICHOFORM (CRCL3) TETRACHLOROFTHYLENE
	CONTAM- INANT	PIK'BT PIPPOE P324ST	VOLATIL	BZEBNZ BZMPXY BZXYI. XIGHO XITITR

PLANT NAME: Toronto (Main)
PLANT TYPE: Secondary

SAMPLING TYPE: Treated Sludge SAMPLE FORM: Dry Weight

The property of the property	The property cycle of the property of the pr	STREAM   S	CONVEN	CONTAM: CONTAMINANT NAME INANT CONVENTIONALS	UNITSQ. (DRY CC) WEIGHT)	DE C	PLANT MAX.DEF. CONC.	FLANT SAMPLES	PLANT DET.	PLANT W FREQ.	GLOBAL.	GLOBAL # DET	GLOBAL. % FREQ. DET.	E S M	PLANT GEO. MEAN		F GLOBAL PL. GEO. SPP I MEAN FAC	F GLOBAL PLANT GLO GEO. SPREAD SPI I MEAN FACTOR FAC
SILVERUNELTTOTAL	ALS SILVER LINETT TOTAL.  ALLIMENTAL MINTH, LINETT TOTAL.  ALLIMENT MINTH, MINTH, TOTAL.  ALLIMENT MINTH, MINTH, TOTAL.  MARCH CONDITIONAL.  CCADMINION LOWER LINETT TOTAL.  MARCH CONDITIONAL.  CCADMINION LOWER LINETT TOTAL.  MARCH CONDITIONAL.  CCHROMENT TOTAL.  MARCH CONDITIONAL.  CCHROMENT TOTAL.  MARCH CONDITIONAL MARCH	STEPPER TOTAL  ALLIMINIAL DISTITUTION  ALLIMINIAL DISTITUTION  ALLIMINIAL DISTITUTION  ALLIMINIAL DISTITUTION  ALLIMINIAL DISTILL TOTAL  ALLIMINIAL DISTILL DISTIL	NNTKUR PH PHINOL PPUT RST RSTI.OI	NITROGEN TOT LOEN DENGARD NITROGEN TOT (LOCKHECONCIN) PRIENDLICS (AAAP) PRIOSPRORUS, UNFILTTOTAL PRISIDUE, TOTAL RESIDUE, TOTAL RESIDUE, TOTAL		8 2 8 8	20599.99 7.20 7.31 43220.01 253400.00	- 0 0 0 0 0 0	-00000	100.0 100.0 100.0 100.0 100.0	8 4 4 4 8 8 8	8 <del>4 4 4 8</del> 8 8	9998999	0007000	1.0 699579.83 1.0 18211.53 1.0 7.05 1.7 20.76 1.0 245579.32 1.0 109419.94		699519.83 18211.53 7.05 20.76 39560.04 245579.32 109419.94	699579.83 508097.94 18211.53 38494.12 7.05 717 20.76 43.05 39560.04 245579.32 80434.04 109419.94 43379.33
SHI VERLUNDHELTOTAL magks 0 13445 24673 2 2 1000 444 444  ALMAINNUM, WERLETTOTAL magks 0 1036046 1586639 2 2 1000 550 560 560 560 560 560 560 560 560	SHIVER_ITEDIAL.	SILVERITIONAL MININEL TOTAL MININE D 13445 24073 2 2 1000 444 44 44 44 44 44 44 44 44 44 44 44	METALS															
ARSENICUNFILITIOIAL MILKS   1900   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   1500   15	AKSENICUNFILTTOTAL magks 0 4672 4736 2 2 1000 50 45 COMMUNICAL TOTAL magks 0 4672 4736 2 2 1000 50 45 COMMUNICAL TOTAL magks 0 4672 4736 2 2 1000 50 45 COMMUNICAL TOTAL magks 0 1597 8 127 1000 39 32 COMMUNICAL TOTAL magks 0 1597 8 127 1000 34 45 COMMUNICAL TOTAL magks 0 1597 8 12 1000 45 45 COMMUNICAL TOTAL magks 0 10504 1234 2 1000 45 45 COMMUNICAL TOTAL magks 0 10504 1234 2 1000 45 45 COMMUNICAL TOTAL magks 0 10504 1234 2 1000 45 45 COMMUNICAL TOTAL magks 0 10504 1234 2 1000 45 45 COMMUNICAL TOTAL magks 0 10504 1234 2 1000 45 64 64 COMMUNICAL TOTAL magks 0 10504 1234 2 1000 45 64 64 COMMUNICAL TOTAL magks 0 10504 12378 2 2 1000 50 49 COMMUNICAL TOTAL magks 0 10504 12378 2 2 1000 50 64 64 COMMUNICAL TOTAL magks 0 10502 12689 2 2 1000 50 64 64 COMMUNICAL TOTAL magks 0 12678 0 12678 0 12678 0 12678 0 1000 6 50 49 COMMUNICAL TOTAL magks 0 12678 0 12678 0 12678 0 1000 6 50 64 64 64 64 64 64 64 64 64 64 64 64 64	A MARINIA (1997)  A COMATIANEN TOTAL  MARKEL UNINTITOTAL  MARKEL U	110 111	SILVER, UNFILT. TOTAL.		30	240.73	2.5	20	100.0	<b>4</b> 5	4 5	001	0.0	179.91	2	87.78 179.91 37.78	179.91 37.78 1.51
CORPORTIONALITY TOTAL mights 0 1597 26.41 2 2 100.0 45 41 CORPORTIONALITY TOTAL mights 0 1597 26.45 2 100.0 39 32 CORPORTIONALITY TOTAL mights 0 1597 26 2 2 100.0 50 45 CORPORTIONALITY TOTAL mights 0 150.2 1713.87 2 2 100.0 55 45 CORPORTIONALITY TOTAL mights 0 150.0 173.87 2 2 100.0 55 45 CORPORTIONALITY TOTAL mights 0 150.0 173.87 2 2 100.0 34 22 CORPORTIONALITY TOTAL mights 0 150.0 134 2 2 100.0 34 22 CORPORTIONALITY TOTAL mights 0 205.21 22.889 2 2 100.0 55 6 45 CORPORTIONALITY TOTAL mights 0 205.21 226.89 2 2 100.0 55 6 CORPORTIONALITY TOTAL mights 0 205.21 226.89 2 2 100.0 55 6 CORPORTIONALITY TOTAL mights 0 2367.80 2747.90 2 2 100.0 55 6 CORPORTIONALITY TOTAL mights 1 2389.10 2289.10 2 2 100.0 55 6 CORPORTIONALITY TOTAL mights 1 2389.10 2289.10 2 2 100.0 55 6 CORPORTIONALITY TOTAL mights 1 2268.50 22.2 100.0 55 6 CORPORTIONALITY TOTAL mights 1 2268.50 22.2 100.0 55 6 CORPORTIONALITY TOTAL mights 1 2268.50 22.2 100.0 55 6 CORPORTIONALITY Mights 1 2268.50 22.2 100.0 55 6 CORPORTIONALITY Mights 1 2268.50 22.5 1 100.0 55 6 CORPORTIONALITY Mights 1 2268.50 22.5 1 100.0 55 6 CORPORTIONALITY Mights 1 2268.50 2 2 100.0 49 26 CORPORTIONALITY Mights 1 2268.50 2 2 100.0 49 26 CORPORTIONALITY Mights 2 23.5 1 2 100.0 49 26 CORPORTIONALITY Mights 2 20.5 1 2 100.0 49 2 1 100.0 49 26 CORPORTIONALITY Mights 2 23.5 2 1 2 100.0 49 26 CORPORTIONALITY Mights 2 23.5 2 1 2 100.0 49 2 1 100.0 49 26 CORPORTIONALITY Mights 2 23.5 2 1 2 00.0 49 2 1 100.0 49 26 CORPORTIONALITY Mights 2 23.5 2 1 20.0 49 2 1 100.0 49 26 CORPORTIONALITY Mights 2 23.5 2 1 2 00.0 49 2 1 100.0 49 26 CORPORTIONALITY Mights 2 23.5 2 1 20.0 40 2 1 2 00.0 49 2 1 100.0 49 26 CORPORTIONALITY Mights 2 23.5 2 1 20.0 40 2 1 2 00.0 49 2 1 100.0 49 26 CORPORTIONALITY Mights 2 23.5 2 1 20.0 4 4 2 20.0 40 2 1 2 20.0 40 2 2 1 20.0 40 2 2 1 20.0 40 2 2 1 20.0 40 2 2 1 20.0 40 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	COMPARIATIONAL TOTAL MARK 0 1597 241 2 2 1000 343 41 COMPARIATIONAL MARK 0 1597 241 2 2 1000 343 41 COMPARIATIONAL MARK 0 1500 150 1500 34	COMMUNICATIONAL MICES   1577   22   1000   45   45   45   45   45   45   45	15.	ARSENIC, UNFILL TOTAL			5.05	1 77 6	, 7,	100.0	2 2 3	Q 6 :	98.0		2.26			5.40
COPPER, UNITETTOTAL.  MERCIRY, UNITETTOTAL.	CURRALLAND ACID EXTRACTABLE COMPOHINDS  RY CHRYSENE  RY C	CORRESTINGUELT TOTAL.  MARCA PET UNITAT TOTAL.	150	COBALT, UNHILT: TOTAL			28.4]	7 77	4 (4	100.0	3 65	32	82.1		21.30		9.14	9.14 1.50
MHZTATH TOTAL,   marks   0   504   13.81   2   2   100.0   50   49	MARCHE   M	MOLYMENTIAL TOTAL  MOLYMENT VILLIAR TOTAL  MOLYMENT TOTAL  MOL	12	COMPER, UNFILT TOTAL		130	1557.82	n n	n n	100.0	\$ \$ \$	50 24 20	100.0		1478.09	73	333.06 732.24	333.06 1.06 732.24 1.21
NICKEL_INPHT_TTOTAL	NEWER-LINEARCHIONEDHENZODIOXIN   NEWER   122.34   2   100.0   45   42   42   42   42   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78   43.78	NICKEL FORD EXTRACTABLE COMPOUNDS	100	MERCURY, UNITETTOTAL MOLYBIXENUM, UNFILETOTAL			13.81	~	- 5	100.0	34 50	49	98.0		8.29		3.24	3.24 2.04
STRONTHUM, UNFILTTOTAL migrig 0 43-10 433-18 2 2 1000 50 48 STRONTHUM, UNFILTTOTAL migrig 0 205-21 226.89 2 2 1000 50 48 STRONTHUM, UNFILTTOTAL migrig 0 205-21 226.89 2 2 1000 50 50 50 50 ZINC, UNFILTTOTAL migrig 0 2367-80 2747-90 2 2 1000 50 50 50 50 ZINC, UNFILTTOTAL migrig 0 2367-80 2747-90 2 2 1000 50 50 50 50 50 STRONTHUM, UNFILTTOTAL migrig 1 971-00 971-00 2 1 500 50 50 50 50 50 50 STRONTHUM, UNFILTTOTAL migrig 1 971-00 971-00 2 1 500 50 50 50 50 50 50 50 50 50 50 50 50	STRONTHUM, UNFILTTOTAL migrie 0 43410 43348 2 2 10000 500 488 5180 TIONAL MIGRIE 0 205.21 226.89 2 2 10000 500 488 5180 TIONAL AND ACID EXTRACTABLE COMPONINDS  CHRYSENS  CHRYSE	STRONTHING   FORTH	55	NICKEL, UNFILTTOTAL			122.34	~	7	100.0	45	42	93.3		113.36		72.95	72.95
STRONTIUM,UNHULTITOTAL mg/kg 0 2367.80 2747.90 2 2 100.0 50 50 100.0 50 20K.UNHULTITOTAL mg/kg 0 2367.80 2747.90 2 2 100.0 50 50 100.0 50 100.0 50 50 100.0 50 100.0 50 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100.0 50 100	STRONTIUM,UNFILTTOTAL mg/kg 0 2367.80 2747.90 2 2 100.0 50 50 10 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	STRONTIUM, UNFILL TOTAL. mg/kg 0 2365.21 2268 9 2 2 1000 50 50 50 50 50 50 50 50 50 50 50 50		SELENRIM, UNFILT TOTAL			1.34	7 77	2 73	100.0	200	4 8	0.98.0		443.83		196.62	267 1.79
EUTRAL AND ACID EXTRACTABLE COMPOUNDS  CHRYSENE  NAPITIAL SHE NAPITIAL	EUTRAL AND ACID EXTRACTABLE COMPOUNDS           CHRYSENE         ug/kg         1         971.00         971.00         2         1         50.0         50         4           NAPITIAL ENE         ug/kg         1         2389.10         2         1         50.0         50         6           PHENANTHRENE         ug/kg         1         2868.50         2         1         50.0         50         12           SAND FURANS         1         2868.50         2         1         50.0         50         12           HEPTACH JORODHENZODIOXIN         ug/kg         1         12.60         23.50         2         2         100.0         49         10           PENTACH GORDHENZODIOXIN         ug/kg         1         20.50         67.20         2         2         100.0         49         1           HEXACH GORDHENZODIOXIN         ug/kg         2         3.80         2         1         50.0         49         1           IDES,HERRICIDES,PCBS         2         3.80         2         1         50.0         49         2	CHRALAND ACID EXTRACTABLE COMPOUNDS  CHRYSENE NAPITHALENE NAPITHAL	55	STRONTIUM, UNFILTTOTAL, ZINC, UNFILTTOTAL	mg/kg mg/kg		226.89	n n	n n	100.0	S S	20	100.0		215.78 2550.78		240.93	240.93 1.07 988.90 1.11
CHRYSENE         ug/kg         1         971.00         971.00         2         1         50.0         50         4           PHENANTHRENE         ug/kg         1         2889.10         2         1         50.0         50         6           PHENANTHRENE         ug/kg         1         2868.50         2868.50         2         1         50.0         50         12           SAND FURANS         REPLIKANS         1         2868.50         2868.50         2         1         50.0         50         12           HEPTACH ORODIBENZODIOXIN         ug/kg         1         12.60         23.50         2         2         100.0         49         10           PENTACHI ORODIBENZODIOXIN         ug/kg         1         20.50         67.20         2         2         100.0         49         10           PENTACHI ORODIBENZODIOXIN         ug/kg         1         3.0         2         2         2         49         1           PENTACHI ORODIBENZODIOXIN         ug/kg         2         3.80         2         1         50.0         49         1	CHRYSENE         ug/kg         1         971,00         971,00         2         1         500         50         4           NAPITIALENE         ug/kg         1         2389,10         2389,10         2         1         50.0         50         6           PUBRANTIRENE         ug/kg         1         2868,50         2668,50         2         1         50.0         50         12           SAND FURANS         AND FURANS         1         12.60         23.50         2         1         50.0         49         10           PENTACHI ORODIHENZODIOXIN         ug/kg         1         130         130         2         2         100.0         49         10           PENTACHI ORODIHENZODIOXIN         ug/kg         2         130         2         2         100.0         49         1           HEXACHI ORODIHENZODIOXIN         ug/kg         2         3.80         2         1         50.0         49         1           IDES,HER RICIDES,PCBS         3.80         3.80         2         1         50.0         49         2	CHRYSENE   HE   HE   HE   HE   HE   HE   HE	ASE NE	UTRAL AND ACID EXTRACTABLE CO	MPOUNDS													
SAND FURANS	SAND FURANS	HEPTACHI, ORODIBENZODIOXIN   ug/kg   1   1260   23.50   2   100.0   49   10	CHRY	CHRYSENE NAPITALALENE MENA ANY MENE	ug/kg ug/kg	1 2389.10	971.00	700		50.0	888	4 6	8.0		970.90	619.00 1475.30 970.90 1545.60		1845.60
SAND FURANS	HEPTACH GRODIBENZODROXIN	HEPTACHI.ORODIBENZODIOXIN				000000	X: 8097	4	-	0.00	8	2	3		06:5001		05:1977	10:4 00:0077
HEPTACHLORODHBENZODPOXIN	HEPTACH ORODINENZODIOXIN	HEPTACHLORODIBENZODIOXIN ugkg 1 12.60 23.50 2 2 100.0 49 10 OCTACH GRODIBENZODIOXIN ugkg 1 20.50 67.20 2 2 100.0 49 10 DESJHERBICIDESJFCHS  ALDRIN ALDRIN ALDRIN ALDRIN ALBRICIDESJFCHS ALBRICHS ALBRICIDESJFCHS ALBRICIDESJFCHS ALBRICIDESJFCHS ALBRICIDESJFC	SUIXOIC	AND FURANS														
	IDES, HERBICIDES, PCBS	ALDRIN ALPRIA CHLORDANE GAMMACTHLORDANE Ug/kg 1 11.260 17.30 2 2 100.0 50 22 GAMMACTHLORDANE Ug/kg 1 11.10 29.00 2 2 100.0 50 22 GAMMACTHLORDANE Ug/kg 3 34.70 47.80 2 2 100.0 50 21 ENDOSCHIJANE Ug/kg 2 11.10 14.60 2 2 100.0 50 61 HEPTACHLOREWATH Ug/kg 1 17.90 23.60 2 2 100.0 50 10 MIRLX HEPTACHLOREWATH Ug/kg 1 17.90 23.60 2 2 100.0 50 81 1.24-TRUTHOROBENZINE Ug/kg 3 33.30 744.70 2 2 100.0 50 83	P97CDD P98CDD P95CDD	HEPTACHLORODIBENZODIOXIN OCTACH ORODIBENZODIOXIN PENTACH ORODIBENZODIOXIN		- "	23.50 67.20 1.30	0000	n n = -	100.0	\$ \$ \$ \$	7 - 5 - 2	20.4 53.1 2.0 4.1		17.20 37.10 0.50	17.20 5.00 37.10 7.10 0.50 3.20		5.00 7.10 3.20 2.40
ALDRIN		HEPTACHIOREPOXEDE	VIII'G	ALPHA-CHLORDANE GAMMA-CHLORDANE	ug/kg ug/kg	11.10	29.00	~ ~ .	~ ~ .	0.001	20 20	22	44.0		17.90		6.80	6.80 2.16
ALDRIN ALPHA-CHI.ORDANE ug/kg 1 12.60 17.30 2 2 100.0 50 11 GAMMA-CHI.ORDANE ug/kg 1 11.10 29.00 2 2 100.0 50 22 GAMMA-CHI.ORDANE ug/kg 1 9.90 29.40 2 2 100.0 50 21	ALPHA CHLORDANE ug/kg 1 11.10 29.00 2 2 100.0 50 22 GAMMA.CHLORDANE ug/kg 1 9.90 29.40 2 2 100.0 50 21	. PRINTS AND STATE OF	HI-PE	HIPPTACHLOREPOXIDE	E E A S		14.60	~ ~ .	N N 1	100.0	888	001	20.0		12.70		5.20	\$20 1.23
ug/kg         1         12.60         17.30         2         2         100.0         50         11           ug/kg         1         11.10         29.00         2         2         100.0         50         22           ug/kg         3         34.70         47.80         2         2         100.0         50         21           :         ug/kg         2         11.0         14.60         2         2         100.0         50         6           :	AIAPIACHIORIANE         ug/kg         1         11.10         29.00         2         2         100.0         50         22           CAMMACHIORIANE         ug/kg         1         9.90         29.40         2         2         100.0         50         21           ENDOSULJANI         ug/kg         3         34.70         47.80         2         2         100.0         50         6           MIRLY CHIORIENONIDE         ug/kg         2         11.10         14.60         2         2         100.0         50         10           MIRLY CHIORIENONIDE         ug/kg         2         11.0         14.60         2         2         100.0         50         10	TO THE PARTY OF TH	P11PPDE X2124	PP DOF- L 24-TRICHLOROBENZENE	ug/kg ug/kg	1 323.30	52.00	776	7 77 6	100.0	00 9 00 9	E # C	0.80		26.80	26.80 11.10 503.70 14.80		11 10 2

	GLOBAL.	55.9 32.4 11.8 35.3 38.2 38.2 23.5 67.7	324 324 35.3
	GLOBAL G SPREAD W FACTOR	2.96 4.39 4.43 1.193 3.13 4.42 4.82 4.88	5.59 7.11 4.05 4.33
	PLANT SPREAD FACTOR	6.64 2.08 2.28 1.73 1.73 5.15 5.15 4.04 4.04	1.97 2.83 3.40 10.61
Treated Sludge Dry Weight	GLOBAL GEO. MEAN	7.00 5.60 8.80 3.90 3.70 6.50 4.70 114.10	606.50 816.00 523.50 441.70
	PLANT GEO. MEAN	32.40 7.00 7.50 6.40 5.80 13.40 10.50	701.80 4913.40 637.20 419.20
SAMPLING TYPE SAMPLE FORM :	GLOBAL. % PREQ. DICT.	42.0 38.0 38.0 8.0 30.0 30.0 18.0 64.0	28.0 30.0 28.0 24.0
SAMPL	GLOBAL.	12 4 4 1 1 1 2 3 2 8 8 1 1 3 2 8 8 1 1 2 4 8 1 1 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	4 5 4 5
	GLOBAL # SAMPLES	8 8 8 8 8 8 8	2 2 2 2
	PLANT % FREQ. DET.	0.08 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	100.0 200.0 100.0 50.0
	PLANT PET.	~	224
	PLANT # SAMPLES	ппппппппппппппппппппппппппппппппппппппп	2222
	PLANT MAX. DET. CONC.	123.70 11.80 13.50 9.70 8.50 123.40 28.10 304.70	1134.50 10260.50 1512.60 2226.90
Toronto (Main Secondary	MIN. CONC.	8.50 11.80 13.50 9.70 8.50 42.70 123.40 28.10 304.70	434.10 2352.90 268.40 2226.90
ME : Torr PE : Sec	UNITSQA/QC PLANT (DRY CODEMIN, CONC. WEIGHT) > DL	10 10 10 10 10 10 10 10 10 10 10 10 10 1	3333
PLANT NAME : Toronto (Main) PLANT TYPE : Secondary	CONTAMINANT NAME	X2HCB ALPHACHLOROBENZENH PIBHCB ALPHAS BHCCHEXCHLORCYCLHEXANE) PIBHCB DELTA-BHCCHEXCHLORCYCLHEXANE) PIBHCD DELTA-BHCCHEXCHLORCYCLHEXANE) PIBHCD GAMMA-BHCCHEXCHLORCYCLHEXANE) PIBHCD GAMMA-BHCCHEXCHLORCYCLHEXANE) PIBHCD PIBHCD PIBHCD PIBHCH PIB-TACHLOR PCB, TOTAL	ETIYI. BENZENE (CM110) M. AND P. XYI ENIS O. XYI ENIS (CM110) CHI,OROPORM (CHC).3)
	CONTAM-	XZHCB PIBHCA PIBHCD PIBHCD PIDHEL PIDMOT PIHET PIEST	BZEBNZ BZMPXY BZOXYL X1GILO

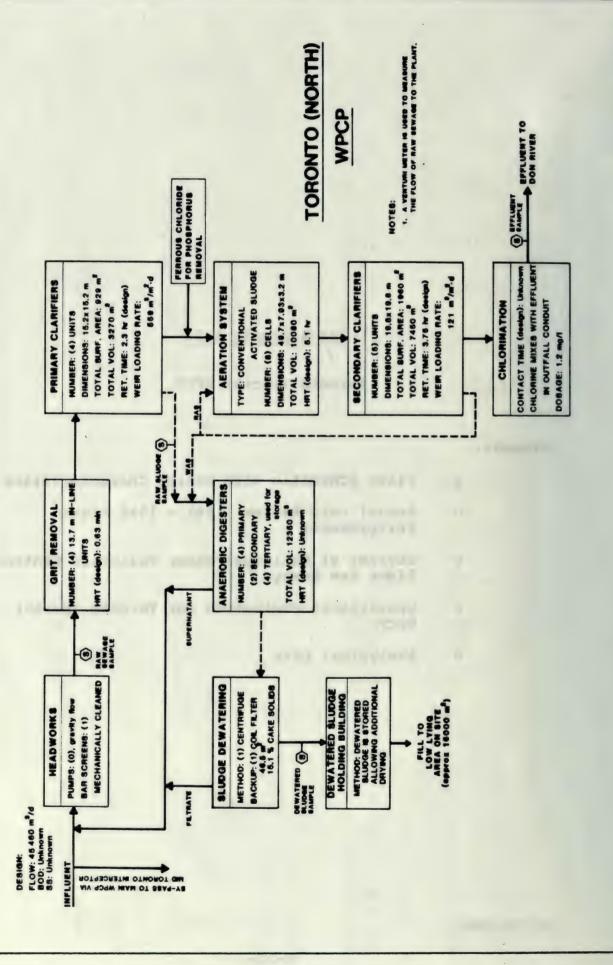
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# Sub-Appendix A-32

## Toronto (North) WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Toronto (North)
  WPCP
- o Analytical Data



NORTH TORONTO WPCP (EAST YORK) Conventional Activated Sludge Phosphorus Removal - Continuous Capacity - 45.468 18(3) m3/day

PARAMETER	1981	1982	1983	1984	1985	5 YEAR AVERAGE 81-85
Avg. Daily Flow (1880 e3/day)	36.37	36.28	35.37	35.78	34.71	35.68
BOD5 - Influent (mg/L) BOD5 - Effluent (mg/L)	118.88	; ; ; 111.88 ; 18.58	183.88 14.58	112.58 12.83	128.42	111.54
Annual BOD5 Significantly Different from Mean Annual Average BOD5?	1.0.	i I.D.	i i.D.	i. I.D.	1.D.	8 9 9 3 8
TSS - Influent (æg/L) TSS - Effluent (æg/L) Annual TSS Significantly	177.50 20.90	172.28 21.88	148.88 17.88	154.58 7.67	154.17 6.75	161.29
Different from Mean Annual Average TSS?	I.D.	1.D.	1.D.	1.5.	1.0.	***
Total P - Influent (mg/L) Total P - Effluent (mg/L) Annual TP Significantly Different from Mean	5.98	5.31 1.00	5.10	5.32 6.85	5.88 8.85	5.34
Annual Average TP? TP in Compliance?	I.D.	1.D.	I.D.	1.D.	I.D.	; ; Y

I.D. - Insufficient Data

## SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

# GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE  DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	NORTH TORONTO WPCP 120000364 CONVENTIONAL ACTIVATED SLUDGE PHOSPHORUS REMOVAL CONTINUOUS 45.460 35.717 55000
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	8
COMMERCIAL SOURCES (%) (Population x 0.0757)	12
RESIDENTIAL SOURCES (%) (Population x 0.175)	27
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from industrial, commercial and residential sources)	N 53
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	91 83 28

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	SIC	# OF COMPANIES
PRINTING AND PUBLISHING	2700-279	
INSTRUMENTS AND RELATED PRODUCTS	3811-387	3 4
MACHINERY MFG	3500-359	9 7
ELECTRICAL & ELECTRONIC COMPONENTS	3612-369	5
STONE, CLAY AND MINERAL PRODUCTS	3200-329	9 2

# TORONTO NORTH WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: June 14,1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 45,460 m3/d

1 1				PRE-SAM	PLINS PER	IOD		
1 1 1 2 1 1	PARAMETER	DAY 1 :					DAY 6 1	DAY 7
		***********						
11		1			77. 844	7/ 100 1	7/ //	77 400
11	RAW SEWAGE FLOW	36,000 :	,				36,100	
11	% of Design Flow	79.19%		70 051	78,75%			70.617
2 1	a of vesign rion	17.1741	1,00%	/7.0361	10.7361	00.0721	17.7141	10.01
1 1								
2 A 2 2	Influent BOD (mg/L)	1	270 :	240 :	140 1	1	1	
1 1 1 1	Primary BOD (mg/L)	-	230 :	180 ;	120 1	1 1	1	
1 1	Secondary BOD (mg/L)	1	15	20 ;	24 1	8 8	1	
11	7 PRIMARY REMOVAL	3 3	14.8 :	25.0 1	14.3 1	1	9 9	
1 1	% SECONDARY REMOVAL		94.4		82.9 1	1	1	
11-	Influent SS (mg/L)	180	180 ;	,	140	130	90	90
11		100 1	100 :		55	100 :	75 :	75
11	Secondary SS (ag/L)		6 ;	2 1	4 :	3 :	3 1	10
11	I PRIMARY REMOVAL	44.4	44.4			23.1 ;	16.7	16.7
11		96.7	96.7 1	98.7	97.1	97.7	96.7	100.0
11-								
2 1	Influent NH4 (mg/L)	1	1		1	1		
8 8	Primary NH4 (mg/L)	1	1	3	1	1	:	
2 5	Secondary NH4 (mg/L)	1	1		1	*	1	
3 8	I PRIMARY REMOVAL	2	1	8 3	1	1	2 2	
2 2 2 3	1 SECONDARY REMOVAL	2 2	1	2 8	1	1	į.	
11-								
2 8	Influent TKN (mg/L)	1	8	1	1	1	1	
2 2	Primary TKN (mg/L)	1	1	3 3	1	3	1	
3 1 1 8	Secondary TKN (mg/L)	1	1	1	i	1	1	
1 1	% PRIMARY REMOVAL	1	3	1	i	3	1	
3 3	I SECONDARY REMOVAL	1	1	1	;	2	1	
11-								
11	Influent Total P (mg/L)	5.8 1	5.5 :	3.6	4.2 1	4.5 :	3.9 !	3.9
11	Primary Total P (mg/L)	0.00				4.50		
F B F B	Secondary Total P (mg/L)	0.88 1	0.86 !	0.74 1	0.56	0.52 1	0.50 {	
11	I PRIMARY REMOVAL		01.4	70.4	0/ 7			
11	% SECONDARY REMOVAL	84.8 1	84.4 [	79.4 1	86.7 1	88.4	87.2 1	

# TORDNTO NORTH WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: June 14,1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 45,460 m3/d .

11			PRE-SA	MPLING PER	IOD		;
11 PARAMETER	DAY 8	DAY 9	DAY 10 :				
:: RAW SEWAGE FLOW	34,100		1	1			
l' % of Design Flow	75.01%	82.93%		79.85%	75.672	79.412	
Influent BOD (mg/L)   Primary BOD (mg/L)   Secondary BOD (mg/L)   PRIMARY REMOVAL   SECONDARY REMOVAL		200 ; 210 ; 10 ; 10 ; 5.0 ;	0.0	110   13   15.4	110 E	3 3 3 4	
Influent SS (mg/L)   Primary SS (mg/L)   Secondary SS (mg/L)   PRIMARY REMOVAL   SECONDARY REMOVAL	140 85 8 839.3 94.3	100   5   54.5	100 ; 6 ; 60.0 ;	80 1 7 1	90 :	80 : 6 : 42.9 :	80   6   42.9   95.7
Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) PRIMARY REMOVAL SECONDARY REMOVAL							
Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) PRIMARY REMOVAL SECONDARY REMOVAL						,	
II Influent Total P (mg/L) II Primary Total P (mg/L) II Secondary Total P (mg/L) II PRIMARY REMOVAL II SECONDARY REMOVAL	4.2 0.60	0.52	4.9 1 0.66 1 86.5 1	4.7 : 0.56 : 88.1 :	4.9 0.64 86.9	4.8 : 0.60 : 87.5 :	4.8 : 0.86 : 82.1 :

# TORONTO NORTH WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING:

June 14,1987

SAMPLING SEASON: Summer (Warn Weather)

DESIGN AVE FLOW:

45,460 m3/d

				SAMP	LING PERIO	D		
		DAY 15	DAY 16					
==							1	
	RAN SEWAGE FLOW	36.500	37,400	36,300 }	34,400	35,600	35,600	35,400
	tion venille teen	1	1	1	1	12,200	1	02,100
	% of Design Flow	80.291	82.271	79.85%	75.671	78.312:	78.31%	77.871
	Influent BOD (mg/L)	 	120	130	1	140	,	
	Primary BOD (mg/L)	: :	120	160 :	160 :	130 :	:	
	Secondary BDD (mg/L)	1 1	24 1				1	
	Z PRIMARY REMOVAL	1 1	0.0					
	Z SECONDARY REMOVAL	! !	80.0	81.5	84.0	85.7		
	Influent SS (eg/L)	110	120	130	,	140	100 ;	
	Primary SS (mg/L)	B0 :	80	90 ;				70
	Secondary SS (mg/L)	9 1						
	% PRIMARY REMOVAL	27.3						
	I SECONDARY REMOVAL	91.8	95.8	96.2	94.1	95.0 1	96.0 :	97.5
	Influent NH4 (mg/L)						!	
	Primary NH4 (mg/L)	1 1	1	.1	1	:	8 8	
	Secondary NH4 (mg/L)	1 1		1 2	8	1	1	
	I PRIMARY REMOVAL	1	1	1	3 3	8		
	I SECONDARY REMOVAL	:	i	1	1	1	1	
	Influent TKN (mg/L)	1		1				
	Primary TKN (mg/L)	1			1	1	i	
	Secondary TKN (mg/L)	1			1	,	1	
	Z PRIMARY REMOVAL			1			!	
	I SECONDARY REMOVAL	1		1	1		1	
	Influent Total P (mg/L)	5.0	3.8	4.6	4.3 ;	5.5	4.7 ;	4,7
	Primary Total P (mg/L)	1	3.0	7.0 1	7.0 )	J.J 1	7.7 1	71/
	Secondary Total P (mg/L)	0.84	0.90	0.90	0.98	0.96	1.02	0.80
	% PRIMARY REMOVAL	1	3		!	1	!	****
	% SECONDARY REMOVAL	83.2	76.3	80.4	77.2	82.5	79.3 :	83.0

PLANT NAME: Toronto (North) PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

ONVERTIONALS  CONTEXTIONALS  CONTEXT	CONTAM-	CONTAM- CONTAMINANT NAME	UNITS QC PLANT CODEMIN.CONG.	OC PODE MIN	IN. CONC. M	MAX. DET. CONC.	FLANT # SAMPLES	PLANT DET.	% FREQ. DET.	GLOBAL * SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GEO. MEAN	PLANT SPREAD FACTOR	GLORAL SPREAD FACTOR	GLOBAL % PREV.	
1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,500   1,50	2	DNALS				100	Į,			771	1		MIT					1
1,500   1,500   2,000   3   1,000   207   206   99.5   99.5   99.5   1,101   1,101     1,500   1,500   3   3   1,000   207   207   20.5   99.5   20.5   20.5   1,101   1,101     1,500   1,500   3   3   1,000   273   273   1,100   1,003   1,101   1,101     1,500   1,500   3   3   1,000   273   273   1,100   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1,000   1																		
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,		BOD, 5 DAY -TOTAL DEMAND CHEMICAL, OXYGEN DEMAND	me/L	00	56.00	240.00	es es	en en	100.0	260	258	99.6	194.85	140.23	132	1.93	0.001	
0         16,20         37,30         5         100,0         27,3         100,0         28,96         20,44         11,20         14,9           0         7,06         7,20         5         5         100,0         27,3         27,3         100,0         28,66         25,44         11,20         14,7           0         7,06         7,20         5         5         100,0         27,3         27,3         100,0         28,66         10,11         13,7         11,10         11,47           0         41,50         52,70         5         5         100,0         27,2         28,6         68,42         10,03         11,11         11,73           0         41,50         70,00         6         100,0         37,2         29,6         58,5         50,00         11,11         11,73           0         44,50         70,0         5         5         100,0         37,2         29,6         58,6         68,4         11,11         11,73           0         1,18         0.0         6         100,0         37,2         29,6         58,5         50,00         11,11         11,13           0         1,18         0.0		DISSOLVED ORGANIC CARBON	meA		14.50	19.00	w	so	100.0	27.1	27.1	100.0	16.93	22.39	111	181	100.0	
0         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,10         7,		AMMONIUM, TOTAL FILT REAC.	med	0	16.90	27.30	en e	so e	0.001	27.5	274	9.66	20.85	15.37	1.20	1.69	100.0	
0         5700         6970         5         500         267         566         995         6642         1588         100         100           0         4150         5270         5         1000         267         266         995         6642         1588         100         100           0         4150         5270         5         1000         372         269         995         6442         1588         100         100           0         4000         7000         7000         6         1000         372         236         950         900         1310         132         248           0         1000         3000         312         246         997         3000         1310         132         248           0         1000         3000         319         318         997         3000         1310         132         248           0         1000         3000         319         318         997         3000         110         317         110         110         214         110         110         214         110         110         214         110         110         111         110		NITROGEN-TOT-MEL, UNP. TOT	men	0 0	200	27.23	n •	n w	100.0	213	273	0.001	28.06	25.44	1.12	141	0.001	
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,		RESIDUE, PARTICULATE	me/L.		57.00	69.70	n wn	n <b>v</b> n	100.0	267	599	9.86	65.42	126.88	10.0	200	0001	
0         \$60.00         780.00         6         6         100.0         312         396         95.0         580.00         1132         245           0         40.00         770.00         6         6         100.0         312         237         73.6         500.0         511.0         123         344           0         40.00         770.00         6         6         100.0         227         237         73.6         500.0         511.00         123         244           0         0.18         0.20         6         6         100.0         237         274         98.9         100.0         11.0         11.0         211.0         11.0         201         11.0         201         11.0         201         11.0         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201         201 </td <td></td> <td>RESIDUE, PARLOSS ON IGNI.</td> <td>meA</td> <td>0</td> <td>41.50</td> <td>52.70</td> <td>×</td> <td>wn.</td> <td>100.0</td> <td>96</td> <td>88</td> <td>6:86</td> <td>48.46</td> <td>100.84</td> <td>1.11</td> <td>1.78</td> <td>1000</td> <td></td>		RESIDUE, PARLOSS ON IGNI.	meA	0	41.50	52.70	×	wn.	100.0	96	88	6:86	48.46	100.84	1.11	1.78	1000	
0         360.00         780.00         6         100.0         372         366         95.0         580.00         1000.10         132         265           0         4.00         700.00         6         6         100.00         372         237         73.6         500.00         51.10         123         344           0         0.18         0.20         1         100.0         372         237         73.6         500.0         51.10         123         344           0         0.18         0.20         1         100.0         319         274         98         1200         91.10         123         344           0         180.0         2         1         100.0         319         274         98         1200         97.00         110         200         214         100         99         234         110         000         214         112         110         111         111         111         111         111         111         112         111         111         111         111         111         111         111         111         111         111         111         111         112         111         111																		
0         350,00         780,00         6         100.0         322         396         95.0         580,00         11.0         125         364           0         40,00         700,0         6         6         100.0         322         237         736         500,0         51.10         125         344           0         120,00         120,00         6         6         100,0         312         374         580         100,0         11.0         228         344         211         100         228         344         318         397         220,0         31.10         125         314         311         318         397         300         311,0         124         214         228         311         311         311         311         311         311         311         311         311         311         311         311         311         311         311         311         312         311         312         318         312         311         311         311         311         311         311         311         311         311         311         311         311         311         311         311         311         311																		
0         360.00         780.00         6         100.0         322         366         95.0         580.00         1000.10         132         265           0         130.00         130.00         322         237         73.6         580.00         131.0         132         244           0         130.00         130.00         130.00         319         374         96.8         100.0         319         314         96.8         100.0         110.0         214         214         214         214         214         214         214         214         214         214         214         214         210.0         310.0         310.0         310.0         310.0         311.0         114         214         312         414         96.8         90.0         211.0         114         214         214         214         310.0         310.0         314         214         317         310.0         310.0         314         311         311         310.0         310.0         310.0         314         311         310.0         314         311         310.0         314         311         310.0         314         311         310.0         311         311 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>																		
0         1000         1000         322         237         736         5000         51.10         1.25         344           0         1000         1000         322         237         736         5000         11.20         1.34         21.10         1.25         344           0         1010         23         23         234         860         1000         21.20         1000         21.20         1000         21.20         1000         21.20         1000         21.20         1000         21.20         10.20         21.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         11.20         22.10         22.10         22.10         22.10		ALUMINUM, UNPILT. TOTAL	"eAL	0	00:09	780.00	9	9	100.0	322	306	95.0	580.00	1000.10	1.32	2.65	97.3	
0         0.18         0.66         5         1 0000         233         274         96.8         0.31         0.10         2.14         2.14         0.20         0.31         0.32         0.31         0.32         0.31         0.32         0.31         0.32         0.31         0.32         0.31         0.32         0.31         0.32         0.31         0.32         0.31         0.32         0.31         0.32         0.31         0.32         0.31         0.32         0.31         0.32         0.31         0.32         0.31         0.32         0.31         0.31         0.34         0.34         0.32         0.31         0.31         0.34         0.34         0.32         0.31         0.31         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34         0.34<		CHROMIUM, UNFILT, TOTAL	Non .	0 0	40.00	00.07	· -	· -	100.0	322	237	73.6	20.00	51.10	1.25	3,44	89.2	
0         180.00         230.00         6         100.0         319         318         997         220.00         3170.70         110         214           0         50.00         120.00         6         1         100.0         312         315         997         220.00         140         224           0         50.00         30.00         6         1         16.7         322         103         32.0         10.00         38.80         137         224           0         20.00         20.00         6         1         16.7         322         103         32.0         10.00         38.80         137         270           1         61.70         61.70         5         1         20.0         275         167         60.7         11.43         25.59         25.7         34.5           2         0.02         0.03         5         1         20.0         276         143         31.8         0.02         20.3         24.8           3         0.03         0.03         5         1         20.0         276         214         77.5         0.03         0.01         3.0         278         214         77.5		MERCURY, UNFILT, TOTAL	ne.		0.18	090	- 107	- 107	100.0	283	274	96.58	0.31	0.23	200	211	1000	
0         50.00         120.00         6         6         167         322         315         97.8         90.00         124.0         140         294           0         20.00         20.00         20.00         6         1         16.7         322         103         12.8         10.00         124.0         147         270           1         20.00         20.00         20.0         275         16.7         60.7         11.43         25.59         257         345           2         20.02         20.02         20.0         275         16.7         60.7         11.43         25.59         257         345           3         0.02         20.0         275         143         51.8         0.02         20.7         345           3         0.05         20.0         276         143         51.8         0.02         20.7         348           3         0.05         276         214         77.5         0.03         0.01         30.6         30.6         30.6         30.6         30.6         30.6         30.6         30.6         30.6         30.6         30.6         30.6         30.6         30.6         30.6		STRONTIUM, UNFILT. TOTAL	2	0	80.00	230.00			100.0	319	318	200.7	220.00	370.70	1.10	2.14	100.0	
2         0.02         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.03         0.		ZNC,UNFL,T.TOTAL,	Non I	0 0	20.00	20.00	<b>6</b> 6	· -	100.0	322	315	8.76	90.00	211.00	1.40	2.94	100.0	
1         61.70         61.70         61.70         5         1         20.0         27/5         167         60.7         11.43         23.59         2.57         345           2         0.02         0.02         0.02         0.02         0.02         0.02         1.62         229           3         0.05         0.13         5         3         60.0         27/6         214         77.5         0.03         0.01         3.08         2.48           3         0.05         0.05         2         40.0         27/6         214         77.5         0.03         0.01         3.08         2.48           3         0.05         0.05         2         40.0         27/6         214         77.5         0.03         0.01         3.08         2.48           1         0.03         0.03         5         1         20.0         27/6         32         11.6         0.01         0.01         1.62         2.29         2.18         1.66         2.29         2.18         1.66         2.29         2.18         1.66         2.29         2.18         1.66         2.29         2.18         1.66         2.29         2.18         1.66		NICKEL, UNFILT. TOTAL	3		20.00	20.00	· •		16.7	322	103	32.0	10.00	38.80	133	27.0	% % 7. 7.	
1         61.70         61.70         5         1         20.0         275         167         60.7         11.43         25.59         2.57         3.45           2         0.02         0.03         0.03         5         1         20.0         276         143         51.8         0.02         0.02         1.62         2.29           3         0.05         0.13         5         2         40.0         276         214         77.5         0.03         0.01         3.08         2.48           3         0.05         0.09         5         2         40.0         276         214         77.5         0.03         0.01         3.09         3.72         1           1         0.03         0.03         5         1         20.0         276         214         77.5         0.03         0.01         3.00         3.72         1           1         110.00         5         1         20.0         276         32         11.6         0.01         1.16         2.29         2.24         1.28           1         110.00         5         1         20.0         274         3         11.6         2.0         2.34 <td></td>																		
1         61.70         61.70         61.70         51.70         51.70         51.70         52.59         2.57         3.45           2         0.02         0.03         0.03         5         1         20.0         276         143         51.8         0.02         0.07         11.43         25.59         2.57         3.48           3         0.02         0.03         0.03         276         176         143         51.8         0.02         0.07         1.62         2.29         2.29         2.48           3         0.05         0.13         5         2         40.0         276         214         77.5         0.03         0.01         3.08         2.48           1         0.03         0.03         5         1         20.0         276         32         11.6         0.01         0.01         1.63         1.66           1         1         0.03         0.03         276         276         32         11.6         0.01         1.63         1.66           1         1         1         20.0         2774         2         0.03         0.01         1.16         2         1.12           1																		
HORCYCLHEXANE) ug/L 1 61.70 61.70 5 1 1 20.0 275 167 60.7 11.43 25.59 257 3.45  HORCYCLHEXANE) ug/L 2 0.02 0.03 5 3 60.0 276 143 51.8 0.02 0.01 3.08 2.48  OXYACETICACED ug/L 3 0.05 0.09 5 2 40.0 276 214 77.5 0.03 0.01 3.08 2.48  OXYACETICACED ug/L 3 0.05 0.09 5 1 2 40.0 276 214 77.5 0.03 0.01 3.08 2.48  OXYACETICACED ug/L 3 0.05 0.09 5 1 2 40.0 276 214 77.5 0.03 0.01 1.63 2.09 37.2 1.66  OXYACETICACED ug/L 1 0.03 0.03 5 1 20.0 276 214 77.5 0.03 0.01 1.63 1.66  INDS  ENZENB ug/L 1 10.00 110.00 5 1 20.0 2774 30 11.0 28.13 22.50 21.4 1.75  Ug/L 1 110.00 110.00 5 1 20.0 2774 30 31.0 28.13 22.50 21.4 1.75  Ug/L 1 44.00 44.00 5 1 1 20.0 2774 1 0.04 20.4 20.42 20.51 1.42 1.19		RAL AND ACID EXTRACTABLE COMPO	SUNDS															
H.DRCYCLHEXANB) ug/L 2 0.02 0.03 5 3 60.0 276 143 51.8 0.02 0.02 1.62 229  NYZHE Ug/L 3 0.05 0.03 5 3 60.0 276 143 51.8 0.02 0.02 1.62 229  NYZHE Ug/L 3 0.05 0.09 5 2 40.0 276 214 77.5 0.03 0.01 3.08 248  OKYACENTCACED ug/L 3 0.05 0.09 5 1 2 40.0 276 214 77.5 0.03 0.01 3.08 248  OKYACENTCACED ug/L 3 0.05 0.09 5 1 2 20.0 276 214 77.5 0.03 0.01 1.03 1.66  NDS  NDS  ENZHWE Ug/L 1 110.00 110.00 5 1 20.0 2776 214 77.5 0.03 0.01 1.01 1.03 1.66  Ug/L 1 110.00 110.00 5 1 20.0 2774 30 11.0 28.13 25.50 21.4 1.39  Ug/L 1 44.00 444.00 5 1 20.0 2774 1 0.04 25.42 20.51 1.42 1.11		M-CRESOL.			07.19	01.10	s,	-	20.0	27.5	167	60.7	11.43	25.59	2.57	3.45	86.5	
H.ORCYCLJ-HEXANB) ug/L 2 0022 003 5 3 60.0 276 143 51.8 002 0.02 1.62 2.29 NYZINE ug/L 3 0.05 0.13 5 3 60.0 276 35 12.7 0.03 0.01 3.08 2.48 OXYACETIC ACID ug/L 1 0.03 0.03 5 1 20.0 276 35 11.7 0.03 0.01 3.08 2.48 OXYACETIC ACID ug/L 1 0.03 0.03 5 1 20.0 276 32 11.6 0.01 0.01 1.63 1.66  NDS  H.ORCYCLJ-HEXANB) ug/L 1 10.00 110.00 5 1 1 20.0 274 3 2 0.7 24.48 20.35 1.57 1.12  NDS  H.A.ORCYCLJ-HEXANB ug/L 1 10.00 110.00 5 1 20.0 274 3 2 0.7 24.48 20.35 1.57 1.13  Ug/L 1 10.00 110.00 5 1 20.0 274 3 2 0.7 24.48 20.35 1.37 1.13  Ug/L 1 44.00 444.00 5 1 20.0 274 1 0.4 25.42 20.51 1.42 1.11																		
CCYCLHEXANB ugA. 2 0.02 0.03 5 3 60.0 2776 143 518 0.02 0.02 1.62 2.29  (F. CLHEXANB) ugA. 3 0.05 0.13 5 3 60.0 2776 35 12.7 0.03 0.01 3.08 2.48  (ACTIC ACID ugA. 1 0.03 0.03 5 1 20.0 2776 32 11.7 0.03 0.01 3.08 2.48  (ACTIC ACID ugA. 1 55.00 55.00 5 1 20.0 2774 30 11.0 26.13 20.0 11.0 26.13 1.55  (UGA. 1 10.00 110.00 5 1 20.0 2774 9 3.3 26.90 21.40 1.39  (UGA. 1 44.00 44.00 5 1 20.0 2774 1 0.04 22.42 20.51 1.42 1.11	167	S, HERBICIDES, PCBS																
HE WIGHT WIGHT 1 55.00 55.00 5 0.13 5 1 20.0 5 0.01 276 35 12.7 0.03 0.01 3.08 248  ACETICACID Wigh. 1 55.00 55.00 5 1 20.0 276 214 77.5 0.03 0.13 2.00 3.72  YCLHEXANE) Wigh. 1 55.00 55.00 5 1 20.0 274 2 0.7 24.48 20.55 1.57 1.12  WIGH WIGH. 1 68.00 6 5 1 20.0 274 9 3.3 26.90 21.40 1.39  WIGH. 1 44.00 44.00 5 1 20.0 274 1 0.4 20.4 20.51 1.42 1.11		GAMMA-BITCHEXCHLORCYCLHEXANE		2	0.02	0.03	s	3	0.09	9/2	143	51.8	0.02	0.02	1.62	229	8.0	
NCLHEXANE) ught 1 0.03 0.03 5 1 20.0 276 32 11.6 0.01 0.01 1.03 372  NCLHEXANE) ught 1 55.00 55.00 5 1 20.0 274 2 0.7 24.48 20.55 1.57 1.12  NE ught 1 55.00 55.00 5 1 20.0 274 30 11.0 28.13 25.50 21.4 1.15  Ught 1 66.00 6 5 1 20.0 274 9 3.3 26.90 21.40 1.39  Ught 1 44.00 44.00 5 1 20.0 274 1 0.4 22.42 20.51 1.42 1.11		1,24-TRICHLOROBENZENE	" new	en :	0.05	0.13	wn 4	en e	0.09	276	35	12.7	0.03	10.0	3.08	248	40.5	
INE ug/L 1 55.00 55.00 5 1 20.0 274 2 0.7 24.48 20.55 1.57 1.1.2 1.1.0 11.00 110.00 5 1 20.0 274 30 11.0 28.13 25.50 214. 1.75 1.75 1.85.00 88.00 5 1 20.0 274 9 3.3 26.90 21.40 1.94 1.39 1.85.10 44.00 5 1 20.0 274 1 0.4 22.42 20.51 1.42 1.11		BETA-BHC (HEXCHLORCYCLHEXANE)	new.	า	0.03	0.03	n w	7 -	20.0	9/2	32	11.6	0.00	0.00	700	3.72	135.1	
iNB ug/L 1 55.00 55.00 5 1 20.0 274 2 0.7 24.48 20.55 1.57 1.12 1.12 1.150 1.100 1.1000 5 1 20.0 274 30 11.0 26.13 20.50 214. 1.75 1.15 1.15 1.15 1.15 1.15 1.15 1.1																		
INB ug/L 1 15500 5500 5 1 20.0 274 2 0.7 24.48 20.55 157 1.12 1.12 1.12 1.12 1.12 1.12 1.12 1.1	S.F	CORCANIC COMPOUNDS																
OHLOROBENZENE ULA 1 55:00 55:00 5 1 20:0 274 2 0.7 24.48 20:55 1.57 1.12 1.23 1.25 1.25 1.25 1.25 1.25 1.25 1.25 1.25	rat i	outral company																
ug/L 1 44.00 44.00 5 1 20.0 274 1 0.4 25.42 20.51 1.42 1.11		BROMODICH OROBENZENE ETHYL BENZENE STYRENE	333		55.00 10.00 88.00	\$5.00 110.00 88.00	10 N N		88.0 80.0 80.0	274	9 20 5	0.7 11.0 3.3	24.48	20.55	214	1.75	5.4 29.7 10.8	
		3-CHLOROTOLUENE	W. W.	1	44.00	44.00	so.	-	20.0	274	-	0.4	23.42	20.51	1.42	Ξ	27	

	GLOBAL S. PREV.		0001	1000	* * *	0000	1000	933		1000	0.001	893	67.9		14.3		32.1 96.4 100.0 3.6
	GLOBAL G SPREAD *		1.83	96'9	7.75	271	200	17.1		262	248	200	146		3.43		244 248 471 130
	PLANT G		141	135	112	130	1.11	130		1.20	1.12	143	133		0.00		1.85
	GLOBAL PR GEO. SP MEAN PA		21.22 \$2.80	3.90	2.33	7.97	10.12	7.47		13.10	53.30	9.00	6.60		0.31		0.02
: Final Effluent : Wet Weight	PLANT GL GEO. G MEAN M		43.05	5.50	10.97	6.37	7.76	4.99		0.02	00.00	10.00	20.00		010		0.02 0.02 0.07
642	GLOBAL % FREQ. DET.		98.1	91.5	83.0	0.001	966	75.3		94.4	7.6.7	513	9.4		9.1		15.9 69.2 78.0 0.4
SAMPLING TYP SAMPLE FORM	GLOBAL # DET.		211	204	186	222	219	28		30 220 267	262	137	22		4		36 157 1
SAN	GLOBAL C		213	223	220	222	220	4		233	792	267	192		\$		22 22 22 22
	PLANT & FREQ. DET. S		100.0	100.0	100.0	100.0	100.0	80.0		100.0	100.0	33.3	16.7		100.0		100.0 80.0 20.0 20.0
	PLANT		so so s	ומשח	en en	w w	n wn	4		- % 4	0 4	100			1		*****
	PLANT * SAMPLES		en en e	n wn i	en en	, 'vn v	n wn	su.		- 50 %	· • •	0 00 0			-		N N N N
	ANT PLANT CONC. MAX. DET. DL CONC. 8		70.00	8.60	11.90	9.70	9.10	6.70		0.03	40.00	10.00	30.00		0.10		0.10 0.03 0.11 0.26
	FLANT MIN. CONC. M , DL		30.00	3.85	0.70	5.10	6.80	5.40		10.00	30.00	10.00	30.00		0.10		0.03 0.02 0.11 0.26
o (North) ary	Σ									ONT-MOB ONT-MOB	ONT-MOB	ONT-MOB	ONT-MOR		ONT-MOE		ONT-MOB ONT-MOE ONT-MOB NYS-STD
PLANT NAME : Toronto (North)	QC STD. FOR STD, REF. CODE. SURFACE MATER									5.00					150.00		0.50 0.06 4.00 0.07
NAM			00	00	0 0	000	00	0		000	000	000	000		-		-
ANT	CODE CODE		33	S E	me A	3	mg/L	me/L		333	3	33	333		neA.		3333
PL.	CONTAMINANT NAME	ALS		DISSOLVED ORGANIC CARBON AMMONIUM,TOTAL, FET.REAC.	NITRITE FILT. REACT.	_	(-LOC(H-(CONCN)) RESIDUE, PARTICULATE	JNI.		COPPER, UNFILT: TOTAL MERCURY, UNFILT: TOTAL	ZINC, UNFILT TOTAL	CHROMINUM, UNFILL TOTAL	MOLYBORNUM, UNFILT TOTAL LEAD, UNFILT TOTAL	FURANS	OCTACHI, ORODIBENZODIOXIN	PESTICIDES, HERBICIDES, PCBS	1,24-TRICHLOROBENZENE GAMMA-BHCHEXCHLORCYCLLEXANE) 2,4-DICHLOROPHENOXYAGTIC ACID HEXACHLOROCYCLOPENTADIENE
	CONTAM	CONVENTIONALS	_	DOC DI		TKUR	PH (-	10	METALS	HOUT			MOUT MOUT	DIOXINS AND FURANS	P98CDD O	PESTICIDES,	X2134 1, P1BHCG G P324D 2, X1HCCP H

PLANT NAME: Toronto (North)
PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight

GLOBAL. 88.3 93.9 93.9 93.9 93.9 93.9 93.9 69.7 47.1 50.0 20.6 52.5 41.2 GLOBAL SPREAD FACTOR 3.00 3.60 22.23 2.25 3.40 3.40 4.06 2223 PLANT SPREAD FACTOR 00.0 88888888 0.00 GLOBAL GEO. MEAN 92221.45 291132 25.44 36897.85 603 82.34 32783.51 20803.05 116847.30 8.90 7.20 4.60 4.20 4.30 9.30 6.13 9.74 9.29 301.43 606.31 2.23 2.23 59.17 173.59 3.04 2.31.70 905.39 200 26325.30 GEO. MEAN 46686.75 40.66 46686.75 5.61 39.16 33200.00 21300.00 1.96 14.76 298.19 692.77 3.31 54.22 165.66 1.81 123.49 481.93 9.00 9.00 9.00 9.00 51.20 51.20 GLOBAL % FREQ. DET. 90.0 90.0 90.0 90.0 88.9 98.0 93.0 93.0 93.0 98.0 98.0 98.0 98.0 96.0 20.0 GI.OBAL 130 52056836248828 22 5 a a 5 27 SAMPLES GLOBAL. 2222442484488 % FREQ. DET. 0.0001 100.0 0.00 PLANT. SAMPLES UNITSQA/QC PLANT PLANT (DRY CODE MIN. CONC. MAX. DET. NEIGHT) > DL CONC. 7951.81 40.66 46686.75 5.61 39.16 33200.00 21300.00 26325.30 3.31 54.22 165.66 1.81 123.49 481.93 1.96 14.76 298.19 692.77 4.50 819277.10 7951.81 40.66 46686.75 5.61 39.16 33.200.00 14.76 298.19 692.77 331 54.22 165.66 181 123.49 481.93 9.00 9.00 9.00 9.00 6.00 51.20 57.20 ug/kg 1 00 \*\*\*\*\*\* 5555555 us/kg BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS GAMMA-BITC(HEXCHLORCYCLJEXANE) OCTACH, ORODIBENZODIOXIN CHEMICAL OXYGEN DEMAND AMMONIUM, TOTAL FILT, REAC. NITRATES, TOTAL FILT, REAC. NITROGEN-TOT-KUEL, UNF.TOT ENDRIN PCB, TOTAL SB,VEX 1,2,4-TRICHOROBENZENE RESIDUE, TOT LOSS ON IGNI. COBALT, UNFILT. TOTAL.
CHROMIUM, UNFILT. TOTAL. SFLENIUM, UNFILT TOTAL STRONTIUM, UNFILT TOTAL ALUMINUM, UNPILT. TOTAL. ARSENIC, UNFILT. TOTAL CADMIUM, UNFILT. TOTAL COPPER, UNFILT TOTAL MERCURY, UNFILT TOTAL NICKEL, UNFILT TOTAL CONTAM: CONTAMINANT NAME SILVER, UNPILIT TOTAL. LPAD, UNFILT: TOTAL ALPITA-CHI.ORDANE ZINC, UNHILL TOTAL PESTICIDES, HERBICIDES, PCBS PHENOLICS (4AAP) (-LOC(IH-(CONCN)) RESIDUE, TOTAL **ENDOSULPAN I** M-CRESOL DIOXINS AND FURANS DIFLIDRIN PHENOL CONVENTIONALS PMMCRE METALS PIBIRO COD P98CDD PLENDI PLENDR PLIKERT PSSILV X2124 NNTKUR MUNITAR RSTI,OI PIDIE! PHINON. CDUT COUT CRUT ASUT

	PLANT	PLANT TYPE : Secondary	oronto (Nort	æ					SAMPL	SAMPLING TYPE: Treated Studge SAMPLE FORM: Dry Weight	E: Tres	Frented Sludge Dry Weight				
EDNIAM.	· CONTAMINANT NAME	UNITSQA/ (DRY COI WEIGHT)	ORY CODE MIN. CONC. MAX. DEF. SEGHT) > DL. CONC.	PLANT MAX. DEF, CONC.	PLANT # SAMPLES	PLANT	PLANT S PRIQ.	GLORAL.	GLOBAL.	GLOBAL. S. FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL, SPREAD FACTOR	GLOBAL,	
CONVENTIONALS	HONALS															1
NNTKUR	NITROGEN-TOT-KJEL,UNP.TOT	mg/kg 0	23399.99	23399.99			100.0	49	49	100.0	23399.99	38494.12	00:00	1.7	0.001	
PHON.	PHENOLICS (4AAP) PROSPHORUS, UNPIL, T. TOTAL,		19.82	40910.00			100.0	\$ \$ \$	4.5	100.0	19.82 40930.00	43.05	0.00	3.14	100.0	
RSTLOI	RESIDUE, TOTALOSS ON IGNI.	merks o		119878.00			100.0	20 00	200	1000.0	119678.00	43379.33	00.00	3.19	100.0	
METALS						•										
AGUT	SILVER, UNITET. TOTAL.	mg/kg 0	88.S7	88.57			100.0	4 3	2 5	0.001	18.57	37.78	0.00	2.33	100.0	
ASUT	ARSENICTION TOTAL	mg/kg 0	4.77	477			0.001	S S	89	0.001	7591.73	10715.94	00.00	2.82	0.001	
CDUT	CADMIUM,UNFILT.TOTAL.		8 86	8.86	-	- 000	100.0	4.5	14	91.1	8.86	10.47	0.00	3.98	90.3	
COL	CORALL UNFILL TOTAL	mg/kg 0	461 94	463 94			0.001	39	32	82.1	20.67	9.14	0000	2.75	1000	
CUIT	COMPER UNFILL TOTAL		1265.29	1265 29			100.0	4.5	4.5	100.0	1265.29	732.24	000	2.16	100.0	
HOUT	MERCURY, UNEUTTOTAL	mg/kg 0	33.74	33.74		, o	0.001	20	49	0.86	33.74	3.24	0.00	2.04	97.1	
NRIT	NICKEL, ENTEL TOTAL	mg/kg 0	92.79	92.79			100.0	4. 8.	42	93.3	92.79	72.95	0000	2.95	90.0	
PRUT	LEADJUNIALTTOTAL		506 12	506.12	-	_	0.001	80	49	0.86	506.12	196.62	0.00	2.46	97.1	
SEATT	SELENIEM, UNTIL TOTAL		\$ 00 S	5.06			0.001	05.0	# G	0.96	5.06	2.67	0.00	2.98	1.79	
ZNCT	ZINC,UNFILL FOTAL	mg/kg 0	1012.23	1012 23			0'001	20	20	0.001	1012.23	988.90	0.00	2.57	100.0	
PESTICID	PESTICIDES, HERRICIDES, PCBS															
PLALDR	AI DRIN	ug/kg 1	09.6	09 6	-	-	0.001	05	=	22.0	9.60	5.30	0.00	2.67	26.5	
PICHA	ALPHA CHLORDANE	ug/kg 1	15.00	15 00	-	_	100.0	50	22	44.0	15.00	6.50	0.00	2.41	85.9	
PICHE	GAMMA CHLORDANE	ug/kg I	10.10	243.70			0.001	000	21	42.0	10.10	6.80	000	2.56	52.9	
PIPPI)F	PP DDE	ug/kg 2	58.20	58.20			100.0	2 9	34	0.80	58.20	11.10	000	2.72	73.5	
X212A	1,24 TRICHEOROBENZENE	ug/kg 3	207.80	207.80	. –		100.0	20	22	44.0	207.80	14.80	000	5.02	52.9	
X2HCB	HEXACI IL OROBENZIENE	ug/kg 2	01.16	01.10	_	-	100.0	20	17	470	91.10	7.00	000	2.96	88.9	

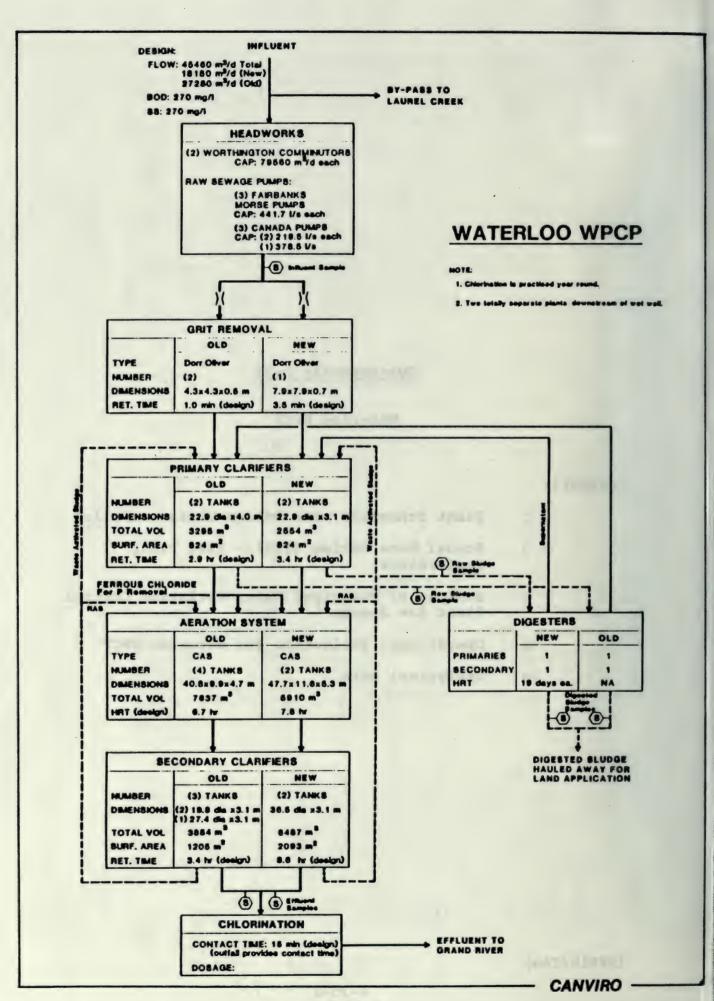
market Bolivanian CANTER DEALERS OF THE ISSUED

# Sub-Appendix A-33

#### Waterloo WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Waterloo WPCP
- o Analytical Data



MATERLOO MPCP Conventional Activated Sludge Phosphorus Removal - Continuous Capacity - 45.46 18(3)m3/day

PARAMETER	1981	1982	1983	1984	1985	MEAN ANNUAL AVERAGE
Avg. Daily Flow (1888 m3/day)	34.93	35.83	39.68	41.6 <b>8</b>	45.23	39.29
BODS - Influent (mg/L)	211.58	389.17	273.33	268.88	218.17	278.43
BODS - Effluent (mg/L) Annual BODS Significantly Different from Mean	9.32	11.00	14.17	12.75	6.83	18.81
Annual Average BOD5?	N	N	H	N	Y	1
TSS - Influent (ma/L)	230.68	785.83	485.88	433.33	482.88	467.27
TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean	7.46	18.92	9.02	18.42	8.92	9.35
Annual Average TSS?	N	N .	N	Ж	N	
Total P - Influent (ag/L)	6.51	9.52	B.23	6.56	6.46	7.46
Total P - Effluent (mg/L) Annual TP Significantly Different from Mean	<b>8.73</b>	8.79	0.78	■.9B	• •.75 •	8.81
Annual Average TP? TP in Compliance?	: N	; N	: N : Y	: Y	: N : Y	Y

I.D. - Insufficient Data

# SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

# GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE	WATERLOO WPCP 110000793 CONVENTIONAL ACTIVATED SLUD PHOSPHORUS REMOVAL CONTINUO	
DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	45.460 45.932 66627	
% OF TOTAL FLOW ATTRIBUTED TO:	mile it makes the contract of	
INDUSTRIAL SOURCES (%)	13	
COMMERCIAL SOURCES (%) (Population x 0.0757)	11	
RESIDENTIAL SOURCES (%) (Population x 0.175)	25	
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from industrial, commercial and residential sources)	ON 51	
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER NO OF SIC CATEGORIES	170 118 32	
DESCRIPTION OF THE TOP 5 INDUSTRIES (BASED ON WATER USE DATA) DESCRIPTION	SIC # OF COMPANIES	
BEVERAGES TEXTILE PRODUCTS PLASTICS MOLDING ELECTRICAL AND ELECTRONICS COMPTS PLASTICS, RESINS, SYNTHETIC FABRICS	2082-2087 3 2271-2299 4 3070-3079 12 3612-3690 16 2821-2824 2	

## WATERLOO WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: January 23, 1987 SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 45,460 m3/d

				PRE-SAM	PLING PER	IOD		
0 # 9 9 8 8	PARAMETER :	DAY 1 :	DAY 2	DAY 3 1	DAY 4	DAY 5	DAY 6 1	
1   23								
	1	1 1 1 1	17 170 1	10.000	70 (50 )	70 700 1	70.050 1	75 /50
9 9	RAW SEWAGE FLOW	42,050	43,650	40,200	39,650 1		32,850 :	
	Y of Besies Flau	92.50%	04 0271	88,4321	87,22%		72.26%	78,42%
	1 of Design Flow	12.3041	70:0241	90.73.1	07.224			/0:72%
						-		
9	Influent BOD (ag/L)	190.0 1	-	200.0	2	1	1	
		82.0 :	1	128.0 ;	1	1	1	
1 1	Secondary BOD (ag/L)	7.0 :	9	7.0 :	3 1	1	8 8	
0 0	I PRIMARY REMOVAL	56.8 1	9 8	36.0 1	8 9	1	:	
1 1	1 SECONDARY REMOVAL	96.3 1	1	96.5	1	1	1	
	Influent SS (mg/L)	420.0	310.0 :	340.0	340.0 ;	460.0	!	
	-	74.0 1	66.0 ;		84.0 :	76.0		
		16.0 1	8.0 :	5.0 1	6.0 1	5.0 !	9	
1 1	1 PRIMARY REMOVAL	82.4 1	78.7 ;	76.8 :	75.3 1	83.5	1	
5 E 8 E	1 SECONDARY REMOVAL	96.2 :	97.4 :	98.5 1	98.2 1	98.9 1	*	
11-								
8 8		13.8	1	1			1	
1 1	Primary NH4 (mg/L)			5.0.1	i	i	;	
* 1	Secondary NH4 (eg/L) : I PRIMARY REMOVAL :	5.5 !	6.5 1	5.0 1	i	i	i	
11	% SECONDARY REMOVAL	60.1	1	1	1 2	1	9	
!!-	A DEGUNDART REPOYAL		·					
11	Influent TKN (mg/L)	26.0 :						
11	Primary TKN (mg/L)	1	1	1	1	1	1	
9 8 9 9	Secondary TKN (mg/L)	22.6 1	3 5	4 2	8 1	1	1	
# # # #	1 PRIMARY REMOVAL	1	2 2	3 1	2 2	3 9	1	
11	I SECONDARY REMOVAL	13.1 ;	1	8		1	8	
11-	***************							
11	Influent Total P (mg/L)		1	1	5.40		1	
**	Primary Total P (mg/L)	-	1 20 1	1 00 1	0.00	0.40	1	
11	Secondary Total P (mg/L)	1.50	1.20 :	1.00 :	0.80 :	0.40 :	1	
11	7 PRIMARY REMOVAL 7 SECONDARY REMOVAL	76.9	i	i	85.2 ;	i	i	

#### WATERLOO WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: January 23, 1987 SAMPLING SEASON: Winter (Cold Meather)

DESIGN AVE FLOW: 45,460 m3/d

11						
II			PRE-SA	MPLING PER	100	11
PARAMETER	DAY B	DAY 9	DAY 10 1	DAY 11 :	DAY 12	DAY 13 : DAY 14 ::
11	;		1	1		1 11
RAW SEWAGE FLOW	47,350 :	52,300	39,900	37,300 :	39,200	
11 % of Design Flow	1 104 1671	115.051	87.77%	82.05%	86.231	1 11
17	1 1	1	1	1	10.10	i ii
11						
:: Influent BOD (mg/L)	1 160.0 1	2	220.0 :	1	1	1 11
:: Primary BOD (mg/L)	1 81.0 1	1	103.0 :	111111		1 11
:: Secondary BQD (mg/L)	1 6.0 1	\$ 1	9.0 :	1	1	
: I PRIMARY REMOVAL	1 49.4 1	1	53.2 1	1	1	1 11
1 SECONDARY REMOVAL	96.3 1	1	95.9 :	Tall	1	
:: Influent SS (mg/L)	240.0		350.0	390.0	450.0	
!! Primary SS (mg/L)		1		95.0 1	72.0	1 13
11 Secondary SS (mg/L)	1 22.0 1		16.0 ;	15.0 1	10.0	1 11
: 2 PRIMARY REMOVAL	1 72.1 1	1	79.4 1	75.6 1	84.0	1 11
11 % SECONDARY REMOVAL	90.8 1	1	95.4 1	96.2 1	97.8	
11	-					
11 Influent NH4 (mg/L)		1	i			
11 Primary NH4 (mg/L)		1				
11 Secondary NH4 (mg/L)	1 5.6 1	1	5.2 1	1		1 11
: I PRIMARY REMOVAL	1 1	1	1	1		1 11
: I SECONDARY REMOVAL	-1					
ii Influent TKN (mg/L)		1				
11 Primary TKN (mg/L)	1 1	1				1 11
Secondary TKN (mg/L)	1 1	1	1	1		11
11 I PRIMARY REMOVAL	1 1	1	/ 1	1		1 11
11 I SECONDARY REMOVAL	1 1	4	-1			1 11
:: Influent Total P (mg/L)	4.80			5.60		
11 Primary Total P (mg/L)	1 1			!		i ii
!! Secondary Total P (mg/L)	1.00	0.80 1	0.70	0.40		1 1 11
I PRIMARY REMOVAL	1 1	1	1	1		i
:: Z SECONDARY REMOVAL	79.2		1	92.9		
SISSISSISSISSISSISSISSISSISSISSISSISSIS	**************					***************************************

## WATERLOO WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: January 23, 1987

SAMPLING SEASON: Minter (Cold Meather)
DESIGN AVG FLON: 45,460 m3/d

* 1				SAMP	LING PERIO	ID		
11	PARAMETER	DAY 15 :	DAY 16 1	DAY 17 :	DAY 18	DAY 19		DAY 21
1 (=:								
3 5			1	1	1	1		
11	RAW SEWAGE FLOW	39,500 1					37,150 1	38,550
11		8		1				
1 1	1 of Design Flow	86.891				94.28%		
11				1				
11-	Influent BOD (mg/L)	230.0		200.0	;			
11	Primary BOD (mg/L)	52.0 1		122.0	1			
11		5.0 :		8.0 :	1		1	
11		77.4		39.0				
11		97.8		96.0 :	. !			
11-	a DECUMENT RESURTE							
11	Influent SS (mg/L)	490.0	540.0 :	440.0 :	440.0	850.0		
11		70.0						
11		9.0						
11	2 PRIMARY REMOVAL	85.7	86.1 :	79.8 :	84.1			
11	2 SECONDARY REMOVAL	98.2 :	99.1 :	98.2 :			:	
11-	**********		;					
11	Influent NH4 (mg/L)	1	1	1	1	1	;	
1 1	Primary NH4 (mg/L)	;	1	ì		1	1	
11	Secondary NH4 (mg/L)	5.6	4.8 :	4.8 :	1	3	:	
11	Z PRIMARY REMOVAL	1	1	1	1		1	
11.	% SECONDARY REMOVAL	1	;	3	ł	1	1	
11-								
11	Influent TKN (mg/L)				1			
11	Primary TKN (mg/L)		i	i				
11	Secondary TKN (mg/L)		i			i	:	
11	I PRIMARY REMOVAL	i	í	i	i		i	
11-	% SECONDARY REMOVAL	i	i	i	i	i	i	
11		5.70	;		5.30		;	
11	Influent Total P (mg/L) Primary Total P (mg/L)	5./U i	i	i	3.30 1	i	i	
11	Secondary Total P (mg/L)		0.60	0.60	0.40	0.50	i	
11	1 PRIMARY REMOVAL	1.00 i	V. 00 i	0.00	0.40 1	0.30 !	i	
11	Z SECONDARY REMOVAL	82.5	i	1	92.5	i	i	
	A SECUMBARY KERUVAL	02.3 i	i	i	72.3 i	i	i	

. . .

## WATERLOD WPCP

TREATMENT FACILITY: Secondary PERIOD ENDING: July 24, 1987
SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLON: 45,460 m3/d

				PRE-SAM	PLING PER	IOD		
8 8	PARAMETER	DAY 1					DAY 6 1	
							,	
	RAW SEWASE FLOW	49,450	62,100	58,270	49,400	50,150	40,450	38,100
1 1	% of Design Flow	100 701	136,60%;	120 1071	108.67%;	110 3271	88.981	83.81%
1	a or besign riow	100.7041	130.00%1	120.1041	100.0741	110.3241	1	
	Influent BOD (mg/L)	210.0		180.0				·;
8	Primary BOD (mg/L)	76.0 :	1	92.0 1	1	1	1	1
1	Secondary BOD (mg/L)	11.0 :	1	17.0 :	1 2	1	1	1
B	I PRIMARY REMOVAL	63.8 :	1	48.9 1	1		1	
1	% SECONDARY REMOVAL	94.8 :		90.6	1	1	8	
-	Influent SS (mg/L)	290.0	350.0	370.0	250.0	340.0		
8	Primary SS (mg/L)	74.0 :	75.0 :	102.0 :	75.0 :	77.0 1	1	
2 2	Secondary SS (mg/L)	13.0 1	18.0 :	9.0 :	6.0 :	4.0 1	1 1	
B	I PRIMARY REMOVAL	74.5 1	78.6 :	72.4 :	70.0 :	77.4 1	3	
1	I SECONDARY REMOVAL	95.5 1	94.9 1	97.6 :	97.6 1	98.8		
-	Influent NH4 (mg/L)			·;	;			
2	Primary NH4 (mg/L)	1	1	3 3		1	2 1	
8	Secondary NH4 (mg/L)	1	1 1	2 2	1	1		
2 2	Z PRIMARY REMOVAL	2 2	1	1	1 8	1	1	
9 9	I SECONDARY REMOVAL					;	1	
	Influent TKN (ag/L)	1	;		1	:		
8	Primary TKN (mg/L)	3	1	8 9	2 2	1	*	
1	Secondary TKN (mg/L)	1	1	1	;	1	1	
9	I PRIMARY REMOVAL	1	9 9	3 8	3 2	1	1 2	
P E	1 SECONDARY REMOVAL	. §	8	1	1	;	1	
8	Influent Total P (mg/L)		8.10	7.90 1	7.80 :	7.90 1	2 2	1
	Primary Total P (mg/L)	-	1	1	1	1	3	
1	Secondary Total P (mg/L)	1.10	0.70	0.60	0.40 ;	0.40 :	i	
-	1 PRIMARY REMOVAL	1	;	3	1	1	1	
1	% SECONDARY REMOVAL	85.9 1	91.4	92.4	94.9 1	94.9 1	1	

## WATERLOO WPCP

TREAJMENT FACILITY: Secondary

PERIOD ENDING: July 24, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVE FLOW: 45,460 m3/d

				PRE-SA	MPLING PER	100		
!	PARAMETER PARAMETER	1 DAY 8 1	DAY 9 1				DAY 13 :	DAY 14
;== ;			;	;		 :	;	
1	RAW SEWAGE FLOW	1 50,250 1	48,050 :	44,850 1	44,250 1	38,900 :	40,600 1	43,300
!	% of Design Flow	1 110,547	105.70%	98.6621	97.3421	85.57%	89.3121	95.25%
1		! !				1		
	Influent BOD (eg/L)	120.0		160.0				
1	Primary BOD (mg/L)	1 58.0 1	1	67.0 1	1	;	1	
1	Secondary BOD (mg/L)	25.0 1	1 4 1 1	3.0 ;	1	1	1	
1	1 PRIMARY REMOVAL	1 51.7 1	1	58.1 1	1111	1	1	
!	2 SECONDARY REMOVAL	1 79.2 1	i par	98.1		;		
!	Influent SS (mg/L)	230.0	360.0	280.0	440.0	460.0		
	Primary SS (mg/L)	58.0 1	75.0 1	70.0 1	81.0 :	91.0 ;	1	
1	Secondary SS (mg/L)	1 25.0 1	8.0 !	6.0 1	5.0 :	4.0 1	1	
1	% PRIMARY REMOVAL	1 74.8 1	79.2 :	75.0 :	81.6 1	80.2 ;	;	
1	2 SECONDARY REMOVAL	89.1	97.8 :	97.9	98.9	99.1		
!	Influent NH4 (mg/L)			;			;	
1	Primary NH4 (mg/L)	1	;		1	+	1	
	Secondary NH4 (mg/L)	1	1	1	1	;	1	
1	1 PRIMARY REMOVAL	1	;	1	1	1	:	
1	% SECONDARY REMOVAL	! - !	:	:		:		
	Influent TKN (mg/L)			;				
	Primary TKN (mg/L)	1 1		1	1	:	1	
1	Secondary TKN (mg/L)	i i	1		1	1	1	
	I PRIMARY REMOVAL	1 1	1			1	1	
1	% SECONDARY REMOVAL	1 1	1		1	1	1	
-								
1	Influent Total P (mg/L)	8.00 1	7.80 :	7.80 1	7.80 1	7.90 1	1	
1	Primary Total P (mg/L)	1 1	1	1	1	1	1	
	Secondary Total P (mg/L)	1 0.90 1	0.40 1	0.50 1	0.50 :	0.50 1	111111	
1	% PRIMARY REMOVAL	1 1	1	1	1	1		
	% SECONDARY REMOVAL	1 88.8 1	94.9 1	93.6 1	93.6 1	93.7 1		

# WATERLOO WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: July 24, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: 45,460 m3/d

1				SAMP	LING PERIO	ID			
1		DAY 15			DAY 18				i
RAW SEN	AGE FLOW	45,900		43,650		59,150		1	
	sign Flow			96.021		130.117		*	
Influen	t BOD (mg/L)	220.0		220.0	:			-	
		104.0	1	176.0 ;	;			1	
Seconda	ry BOD (ag/L)	8.0 :	1	9.0 :	1			E 8	
1 I PRIMA	RY REMOVAL	52.7	1	20.0 :				2 1	
1 % SECON	DARY REMOVAL	96.4		95.9 :				!	
	t SS (mg/L)	270.0	200.0	260.0	230.0	380.0		1	
! Primary	SS (mg/L)	105.0	164.0 :	178.0 :	89.0			8	
Seconda	ry SS (ag/L)	9.0 :	6.0 :	6.0 1	5.0 :	6.0		8	
1 I PRIMA	RY REMOVAL	61.1	18.0 :	31.5 :	61.3			3 0	
1 % SECON	DARY REMOVAL	96.7	97.0	97.7 :	97.8	98.4		1	
Influen	t NH4 (mg/L)							1	
Primary	NH4 (mg/L)	:	3 3	1				3 8	
	ry NH4 (mg/L)	: :	1	1 3	8	1		1	
	RY REMOVAL	: :	1	1	1			9	
I SECON	DARY REMOVAL	!							
	t TKN (mg/L)		1	1				1	
	TKN (mg/L)	; ;	1	1	1			1	
	ry TKN (mg/L)	1 1	t	;	1		}	!	
	RY REMOVAL	; ;	3	;	9			1	
% SECON	IDARY REMOVAL	!!							
Influen	t Total P (mg/L)	4.70		5.20 1	1			1	
		3.30		5.00 :	-	1		1	
	ry Total P (mg/L)				0.40			1	
	ARY REMOVAL	29.8		3.8 :	1			1	
: % SECON	IDARY REMOVAL	87.2	1	90.4 :	1			1	

PLANT NAME: Waterloo

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

CONTAM- INANT	CONTAMINANT NAME	UNITS QC	Σ		MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT S. FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
CONVENTIONALS	ONALS															
BODS COD DOC NNHTERR NNTKUR H PPUT RSP RSP RSP NNOZFR	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL, FILT REAC. NITROGEN-TOT-KJEL, UNF. TOT (-LOCKIH-(CONCN)) PHOSPHORUS, UNFILT. TOTAL RESIDUE, PARTICULATE RESIDUE, PARTICULATE RESIDUE, PARTICULATE PHENOLICS (4AAP) NITRITEJFILT. REACT.			80.00 214.00 112.50 101.10 17.50 6.39 3.28 3.28 77.90 0.76 0.01	187.00 46.50 46.50 18.00 25.30 7.81 4.68 4.20 88.00 4.20	######################################	1711111111 5 9 7	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 18.2	260 200 271 271 273 273 273 267 90 275 275	266 258 271 271 273 275 248 266 89 89 89	99.6 190.0 190.0 190.0 190.0 190.0 193.9 21.4	138.79 22.17 14.68 22.11 7.00 4.07 114.88 82.57 0.60	140.23 287.73 22.39 15.37 25.44 6.90 5.18 100.84 0.31	1.45 1.45 1.42 1.42 1.43 1.43 1.43 1.43 1.43 1.43 1.43 1.43	1.93 1.82 1.81 1.69 1.47 1.03 1.78 2.05 2.05 2.05 2.08	100.0 100.0 100.0 100.0 100.0 100.0 100.0 17.8 57.8
MPTAIS																
CCUT SRUT ALUT ZNUT CRUT CCUT CCUT MOUT COUT	COPPER, UNFILLTOTAL STROOTHUM, UNFILLTOTAL ALLMINUM, UNFILLTOTAL ZINC, UNFILLTOTAL AMERICAR, UNFILLTOTAL GEROMIUM, UNFILLTOTAL GEROMIUM, UNFILLTOTAL CORAL, UNFILLTOTAL MOLY SIDENUM, UNFILLTOTAL MOLY SIDENUM, UNFILLTOTAL MOLY SIDENUM, UNFILLTOTAL MOLY SIDENUM, UNFILLTOTAL NICKEL, UNFILLTOTAL	3333333333	23322 4 4 4 4 5 5	120.00 460.00 0.13 20.00 20.00 20.00 10.00 60.00	140.00 240.00 240.00 160.00 160.00 90.00 70.00 10.00	4 555555555555555555555555555555555555	252222	100.0 100.0 92.3 92.3 91.7 15.4 115.4 115.4 17.7	49 319 322 322 322 321 321 322 322 322	48 318 306 315 274 237 82 41 76	98.0 99.7 99.8 12.8 12.8 12.8 12.8 12.8	130.00 1020.00 640.00 100.00 0.24 30.00 10.00 10.00 10.00 30.00	110.60 370.70 1000.10 211.00 0.23 51.10 10.40 12.40 6.50 8.50	1112 1117 1118 1188 1188 1188 1188 1188	2.28 2.26 2.26 2.21 2.31 2.31 2.33 2.30 2.30 2.30 2.30	97.1 100.0 97.3 100.0 100.0 100.0 89.2 85.8 85.8 85.8 85.8
BASE NEU PMMCRE PMPHEN PMBBP	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS PMACRE MCRESOL PMEHEN PRENOL PMENOL WAL PMERP	UNDS	222	24.80 16.60 33.40	112.60 31.30 33.40	===	10	90.9 9.1.9 1.1.9	27.5 27.5 27.5	167 118 34	60.7 42.9 12.4	54.41 18.95 7.80	25.59 14.52 5.85	1.79 235 277	3.45 2.46 1.66	38.5 37.8 37.8
PESTICIDI PSAD PSELV PIBHCG PIPPOD	PESTICIDES, HERBICIDES, PCBS P32AD 2,4-DIGHLOROPHENOXYAGETIC ACID P358LV SILVEX P1 BHCG GAMMA-BHCCHEXCHLORCYCLHEXANE) P1PDD P-DDD	3333		0.00	0.49 0.67 0.02	====	40	36.4 18.2 9.1	276	214 28 143 6	77.5 10.1 51.8 2.2	<b>50</b> 000	0.05 0.00 0.002 0.001	22.25.25.25.25.25.25.25.25.25.25.25.25.2	3.72 1.68 1.28 1.38	100.0 40.5 94.6 13.5
VOLATILE BZEBNZ BZWEYY BZOX YL X212CB	VOLATILES ORGANIC COMPOUNDS BEBNZ ETHYLBENZENE BEMEYY M., AND P.XYLENES BOXYL O-XYLENE X112CB 1,2-DICHLOROBENZENE	3333		3.30 3.80 4.40 42.00	3.50 3.80 42.00	2222		0.01 10.0 10.0 10.0	22.24	821-	11.0 15.7 9.1 0.4	16.80 17.19 21.54	25 52 26.00 7.4.22 20.05	1.09	2,22 2,62 3,41 1,63 1,63 1,63 1,63 1,63 1,63 1,63 1,6	28 28 24 24 24 24 24 24 24 24 24 24 24 24 24

	a E	LANT	TYPE	PLANT NAME: Waterloo PLANT TYPE: Secondary	rdoo						S S	MPLE FC	SAMPLING TYPE: Final Emuent SAMPLE FORM: Wet Weight	inal Emuel	<b>1</b> _				
CONTAM- INANT	CONTAMINANT NAME	UNITS QC CODE		OC STD. FOR CODE SURFACE	STD. FOR STD. REF.	PLANT MIN. CONC. N > DL	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT DET.	PLANT * FREQ. DET.	GLOBAL.	GLOBAL # DET.	GLOBAL % FREQ. DET.	FLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD PACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.	
CONVENTIONALS	IONALS																		
CONVEN	IONALS		•			4.40	36 00	c	•	0 001	212	311	1 98	30.01	21 22	8			
COD	GOD, S DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND	T S	00			14.00	36.00	200		100.0	213	211	8.8	29.10	52.80	1.61	1.83	10000	
DOC	DISSOLVED ORGANIC CARBON AMMONIUM TOTAL, FILT, REAC.	med.	00			2.70	10.50	6 0	. OI	100.0	223	220	100.0	3.08	3.90	2.16	1.60	100.0	0.5
NNOZFR	NITRITE FILT. REACT.	The same	0			0.11	1.79	6	6	100.0	220	194	88.2	0.37	0.22	3.00	5.95	96.A	
MATCHIN	NITRATES, TOTAL, FILT, REAC.	me.	00			215	7.50	9 9	9 9	100.0	222	186	100.0	5.02	7.97	151	271	1000	
H	(-Log(1H(conch))		0			6.52	7.86	100	2	100.0	224	224	0.001	7.25	7.10	1.06	1.05	0'001	
RSP	RESIDUR, PARTICULATE	mg/l.	0			4.00	11.40	0:	ø 5	100.0	220	219	966	7.29	10.12	1.39	200	0.001	
RSPLOI	PHOSPHORUS, UNFILLTOTAL, RESIDUE, PART, OSS ON IGNI.	TANK THE	0 0			5.30	6.50	= *	2 2	80.0	117	288	75.3	3.55	7.47	1.80	271	93.3	
PHINOL	PHENOLICS (4AAP)	me.	0	000	ONT-MOR	0.22	0.22	10	1	10.0	225	33	14.7	0.00	0.07	1.92	1.86	83.6	
METALS																			
CULT	COPPER,UNPILT.TOTAL	ugh.	0	900	ONT-MOR	10.00	10.00	2	2	100.0	47	30	8.63.8	10.00	13.10	1.00	2.56		_
SRUT	STRONTIUM, UNFILT, TOTAL	No.	00	3750.00	ONT.MOB	870.00	1830.00	==	= 9	100.0	797	730	100,0	1020.00	340.90	1.22	214		0.
ZNCT	ZINC,UNFILTTOTAL	3	. 0	30.00	ONT-MOR	10.00	90.00	=	10	6.06	792	292	98.1	30.00	53.30	1.77	2.48		
ALUT	ALUMINUM, UNFILT, TOTAL	200	0 0	75.00	ONT-MOR	00.00	3200.00	==	90 F	72.7	26.2	196	74.2	100.00	101.70	3.47	3.72		
NICT	NICKEL, UNPET TOTAL	3	0	25.00	ONT-MOB	10.00	30.00	=	7	63.6	267	171	64.0	10.00	22.10	2.62	3,60		
COUL	COBALT, UNFILT, TOTAL	2	0 0	5.00	OYS-STD	10.00	10.00		<b>*</b> •	36.4	565	59	26.4	00.01	6.40	1.69	37		_
AGUT	SB.VER,UNFILT.TOTAL	2	0	0.10	ONT.MOE	10.00	10.00	==	n (4	18.2	267	15	5.6	10.00	6.90	1.38	1.84		
CDCT.	CADMIUM,UNPILT.TOTAL LEAD,UNPILT.TOTAL	33	00	0.20	ONT-MOR	30.00	30.00	==	e4 64	18.2	267	25 25	24.3	20.00	210	1.35	1.48	A17 60.7	
PESTICID	PESTICIDES, HERBICIDES, PCBS																		
PIBHCO	GAMMA-BHCHEXCHLORCYCL/BIXANE)	neA.	2	90'0	ONT-MOB	0.02	0.03	10	80	50.0	122	157	69.2	0.01	0.02	2.08	248		
P12AD P1BHCB	2,4-DICHLOROPHENOXYACETIC ACID BETA-BHC (HEXCHLORCYCL/HEXANE)		e -	4.00	ONT-MOB	0.03	0.08	000	<b>3</b> 0 ~	30.0	22	171	4.0	0.02	0.00	2.30	4.71	21.4	0 -
VOLATILA	VOLATILES ORGANIC COMPOUNDS																		
XICHIO	CHLOROPORM	ueA.	_	0.20	NYS-STD	3.10	17.00	•	2	222	224	33	16.5	1.55	1.37	264	2.18		-
XIIIIX	1,1,1-TRICHLOROETHANB TETRACHLOROETHYLENB	33		\$0.00	NYS-GUL NYS-GUL	3.40	3.40			==	762	==	8 8	1.12	==	141	1.93	32.1	10

PLANT NAME: Waterloo PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sludge SAMPLE FORM: Dry Weight

												and the second				
CONTAM- INANT	CONTAMINANT NAME	UNITSQA/QC (DRY CODEA WEIGHT)	UNITSQA/QC PLANT (DRY CODEMIN, CONC. EIGHT) > DL	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT & FREQ. DET.	GLOBAL # SAMPLES	GLOBAL.	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.	
CONVENTIONALS	TONALS															1
COD NNHTTPR NNOTFR NNTKUR PH PPUT RST RST RSTLOI	CHEMICAL OXYGEN DEMAND AMMONIUM, TOTAL FILL REAC. NITRATIS, TOTAL FULL, REAC. NITROGEN TOT-KUEL, UNF.TOT (J.OXY H-CCONCN) PHOSTH GORLS, UNPILL TOTAL RESIDUE, TOTAL RESIDUE, TOTAL PHENOLICS (4AAP)		1269035.53 4646.02 16.59 37610.62 5.44 22123.89 39400.00 24600.00 88.50	1269035.53 9746.19 31.73 40101.52 58.3 29695.43 45.200.00 27.300.00	- ~ ~ ~ ~ ~ ~ ~ ~	_ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	100.0 100.0 100.0 100.0 100.0 100.0 100.0	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	\$ \$ \$ \$ \$ \$ \$ \$ \$	97.9 89.6 100.0 100.0 100.0 100.0 100.0	1269035.53 6729.11 22.94 3835.11 563 25631.59 42200.47 25914.86 33.51	892221.45 5911.32 25.44 36897.85 6.03 20347.70 32783.51 20803.05	0.00 11.69 11.05 11.05 11.00 11.00 11.00 11.00	3.19 2.21 2.29 2.29 1.10 1.10 1.81 1.77	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	
METALS																
AGUT AAUT AAUT CORUT CORUT HIGHT NIUT NIUT SRUT SRUT SRUT SRUT SRUT SRUT SRUT SR	SILVER, INFILITIOTAL ALLMINUM, UNFILITIOTAL ARSENIC, UNFILITIOTAL COPPER, UNFILITIOTAL COPPER, UNFILITIOTAL COPPER, UNFILITIOTAL NICKEL, UNFILITIOTAL NICKEL, UNFILITIOTAL SELENDUM, UNFILITIOTAL STROMTHUM, UNFILITIOTAL ZINC, UNFILITIOTAL MOLY ROBENUM, UNFILITIOTAL	115/48 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26.55 387.11 5.33 172.57 64.59 1.77 42.04 77.43 3.55 399.73 355.33 355.33 355.33 855.33	32.99 464602 14.38 182.74 178.38 1.78 43.15 88.83 43.15 88.83 43.47 530.97 5.38		~~~~~~~~~	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 8 8 8 8 8 8 8 8 8 8 8 8	88.9 100.0 98.0 100.0 100.0 100.0 100.0 100.0 13.2 62.2	29.60 420570 875 177.58 697.54 177 42.59 82.94 3.86 3.00 3.00	9835.74 6.13 301.43 6.06.31 2.23 59.17 173.99 3.04 2.31.70 905.39 9.29	1.15 2.02 2.02 1.00 1.00 1.00 1.10 1.13 1.23 1.33 1.33 1.34 1.35 1.35 1.35 1.35 1.35 1.35 1.35 1.35	2 51 2 51 2 51 3 68 3 68 1 177 1 177 1 193 1 193 2 239 2 239	### ### ##############################	
BASENE	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SUNDO														
PMMCRE PMBBP PMPIEN	M-CRESOL, BUTYLBENZYLPHTHALATE PHENOL,	ug/kg 1 ug/kg 1 ug/kg 2	280973.50 20132.00 23819.80	8786802.00 20132.00 23819.80	~ ~ ~		100.0 30.0 50.0	51.5	4 4 4 15	82.3 1. 7.8 29.4	1571260.20 6673.80 8890.90	3445.60 7312.80	4.77	12.16 2.25 3.00	85.3 11.8 38.2	
P94CDP P98CDD	DIOXINS AND FURANS 994CDF TETRACH ORODHBENZOPURAN 985CDD OCTACH ORODHBENZOPOXIN	ug/kg 2 ug/kg 1	25.40	25.40	~ ~		50.0 50.0	\$0 80	3 3 2 5	6.0	2.80 3.90	2.40 8.50		3.60	86. 88. 86. 86.	
PESTICIE	PESTICIDES, HERBICIDES, PCBS															
PLECRT P324ST PLDIEL. PLEDR PLHEPE P1PROE P324D PSELV	FCB, TOTAL. 24.5.TRICJORPHENOXYACETIC ACID DIEJ.DRIN ENDRIN HEPTACHLOREPOXIDE PP.DDE: 24-DICHLOROPHENOXYACETIC ACID SU.VEX	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	28.80 31.00 7.60 5.10 5.10 27.90 174.10	253.80 433.00 7.60 5.10 5.10 174.10 170.10	~~~~~~	~~~~~	100.0 100.0 100.0 80.0 80.0 80.0 80.0	<b>555555</b> 55	20 20 20 21 22 23 23 23	78.4 49.2 1877 1877 1873 43.1 45.1 45.1	85.50 115.90 4.10 3.30 3.30 7.80 27.70 43.50	88.70 48.90 7.20 4.20 5.00 7.30 93.20 47.30	4.66 6.45 2.40 2.40 1.81 6.03 13.47 6.89	3.18 3.49 3.10 2.21 2.23 2.33 6.50 3.40	79.4 47.1 50.0 23.5 22.8 52.9 55.9 55.9	

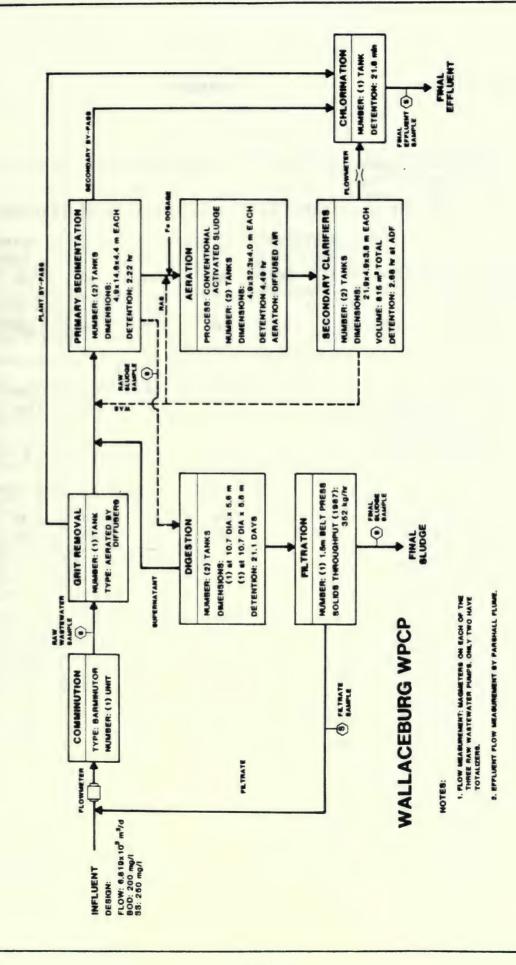
	PLANT NAME PLANT TYPE	AME:	Waterloo Secondary						SAMPI	SAMPLING TVPE SAMPLE FORM	 <u>se</u>	Treated Sludge Dry Weight			
CONTAM.	CONTAMINANT NAME	UNITSQA/QC (DRY CODE) WEIGHT)	A/QC ODE M	PLANT PLANT IN CONC. MAX. DET. > DL. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT S. FREQ. DET.	GLOBAL. # SAMPLES	GLOBAL.	GLORAL. S. FREQ. DET.	PLANT GEO. MEAN	GEORAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD PACTOR	GLOBA * PRE
CONVENTIONALS	TONALS														
COD	CHEMICAL OXYGEN DEMAND	merke	-	-		-	100.0	36	98	100.0	1132663.32	508097.94	00.0	4.65	100.0
NNOTHR	AMMONIUM, TOTAL, FILT, IRBAC. NITRA II-S, TOTAL, FILT, REAC.	E A SE	0 30167.22	100.50	n n	n n	100:0	2 %	ឧឧ	100.0	35019.94	17658.28	22.1	2.92	0.00
NNTKUR	NITROGEN TOT-KIEL, UNP. TOT	me/ks	5518	65326.63	~ .	~ ~	0.001	49	6	100.0	60041.50	38494.12	1.13	1.7	1000
PPUT	PHOSPHORUS, UNPR.T.TOTAL		0 20903.01	33919.60	4 64	4 (4	1000	43	43	100.0	26627.46	76638.67	1	6.91	100.0
RST OI	RESIDUE, TOTAL. RESIDUE, TOT.L.OSS ON IGNE.	E SA	0 11200.00	13800.00	n n	, ,	100.0	2 2	2 %	100.0	24392.83 12432.22	80434.04 43379.33	1.33	3.23	100.0
METALS					-										
AGUT	SILVER,UNFILT.TOTAL.	mg/kg		55.28	2	2	100.0	2	2	100.0	43.00	37.78	1.43	2.33	100.0
ALUT	ALUMINUM, UNFILL TOTAL	mg/kg	0 6532.66	7357.86	2	7	100.0	20	20	100.0	6932.99	10715.94	1.09	2.82	100.0
ASUT	CADMINITINE LIGITAL	mg/kg		15.72	~ -	- 5	0.001	90	49	0.86	14.60	5.40	1.1	2.06	2.8
COUT	COBALTON BL. TOTAL	me/kg	0 2.34		- 2	. 2	100.0	39	32	82.1	4.60	9.14	2.60	2.75	85.7
CRUT	CHROMII M,UNFILT, TOTAL	mg/kg			7	2	0.001	20	90	100.0	260.80	333.06	1.14	3.59	100.0
	MERCHEN LINES TROTAL	me/kg		1088.44	2 6	~ ~	0.001	\$ 65	4.5	0.001	991.40	732.24	1 10	2.16	0.001
NET	NICKEL, UNFILT TOTAL	me/kg		201.01	2	. ~	0.001	4.5	45	93.3	110.00	72.95	2.35	2.95	80.0
PRICT	LEAD, UNTIL TOTAL	mg/kg	0 93.65	16080	7	2	0.001	20	49	98.0	122.71	196.62	1.47	2.46	97.1
SEUT	SELENIOM, CIVILLI OFAL.	mg/kg		5.69	7 (	2 6	0.000	S 3	8 G	0.96	5.33	2.67	60.	2.98	1.76
TUNZ	ZINC, UNFILLTOTAL,	me/ke	0 635.45	703.52	7 7	7 7	0.001	20	20 20	0.001	668.62	948.90	1.07	2.57	100.0
BASENEL	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	NOUNDS													
PMMCRE	M-CRESOL.	ughe	1 15561.90	24587.90	2	2	0.001	90	118	30.0	19561.00	5281.80	1.38	8.20	35.3
DIOXINS	DIOXINS AND FURANS														
P98CDD	OCTACHI, ORODINENZODIOXIN	ughe	1 3.30	3.30	2	-	90.0	49	92	53.1	5.80	7.10	2.21	3.84	64.7
PESTICIB	PESTICIDES,HERBICIDES,POBS														
PIPCRT	K'B, TOTAL.	"BAR	2 46.80	341.70	2	7	0.001	90	32	0.10	126.50	114.10	4.08	4.58	67.7
PINIE	MIRLX MOTO	33	3 56.90 2 R5.40	1.264.ND H5.40	n n	- 10	30.0	000	E 7	96.0	16.80	3.90	86 6	2.23	2 6 5
P1PMDE P3245T	PP-DDF. 2,4,5-TRICLORPHENOXYACETIC ACID		3 374.90		r 11		30.0 30.0	S S	34 35	32.0	15.20	11.10	9.02	3.13	41.2
P324D X2124	24-DICHLOROPHENOXYAGETICACID 1,24-TRICHLOROBENZENE	33	3 20.10	20.10	777		90.0 90.0	223	22 22	50.0 0.44.0	31.80	75.00	3.59	5.81	52.9
AGILB	HEXACTRAJECTORES AND	a a/an	2 10.10		7	_	0.00	30	17	0.75	3,80	7.00	1777	06.7	33.7

# Sub-Appendix A-34

# Wallaceburg WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- O Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Wallaceburg WPCP
- o Analytical Data



WALLACEBURG

L. Erie

WALLACEBURG WPCP Conventional Activated Sludge Phosphorus Removal - Continuous Capacity - 6.819 10(3)m3/day

PARAMETER	; ; 1981	1982	1983	: : : 1984	1985	HEAN ANNUAL AVERAGE
Avg. Daily Flow (1000 m3/day)	6.15	5.68	6.12	5.48	8.87	6.46
BOD5 - Influent (mg/L)	; ; ; 117.63	118.58	117.58	125.75	194.00	116.69
BODS - Effluent (mg/L)	6.43	3.17	1 3.58	1 123.75	12.18	7.87
Annual BODS Significantly	!	!	1 3.30	!	! 12.10	1 /.0/
Different from Mean						
Annual Average BDD5?	. N	. N	, Y	. N	Y	
TSS - Influent (mg/L) TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean Annual Average TSS?	167.89 8.39	183.88 183.85	175.00 15.15	173.92 7.48	167.00 8.85	173.38
	 	! !	! ! ! ! 4.92	! !	! ! ! . 3.73	
Total P - Influent (mg/L) Total P - Effluent (mg/L)	4.54	8.98	8.33	8.67	8.42	8.72
Annual TP Significantly Different from Mean	;	1	1	1	1	1
Annual Average TP?	Y	i N	; Y	N	i N	1
TP in Compliance?	1 AI	. Y	. Y	1 V	. Y	: Y

# I.D. - Insufficient Data

# SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

## GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER	WALLACEBURG WPCP 110000784
TREATMENT TYPE	CONVENTIONAL ACTIVATED SLUDGE PHOSPHORUS REMOVAL CONTINUOUS
DESIGN CAPACITY (1000 m3/d)	6 010
1986 AVERAGE DAY FLOW (1000 m3/d)	8.222
POPULATION SERVED	9200
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	37
COMMERCIAL SOURCES (%)	
(Population x 0.0757)	8
RESIDENTIAL SOURCES (%)	
(Population x 0.175)	20
1711 000 1111 TOD 11101 THE TOTAL TH	25
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from	N 35
industrial, commercial and	
residential sources)	
PROPERTY OF TURNSPORTED THE SAME	ACTIVITY
PROFILE OF INDUSTRIES IN THE CATCH PROFILE OF INDUSTRIES IN CATCHMENT	
TOTAL NO OF INDUSTRIES	50
INDUSTRIES WITH WATER	31
NO OF SIC CATEGORIES	26
DESCRIPTION OF THE TOP 5 INDUSTRIES	S DISCHARGED TO THE WPCP
(BASED ON WATER USE DATA)	
DESCRIPTION	SIC # OF companies
	Companies
	3711-3799 2
	3211-3229 1
ELECTROPLATING	3471-3471 2

3490-3499

3411-3469

MISC. FABRICATED METALS PRD

METAL FINISHING

1

3

#### WALLACEBURG WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING:

Feb. 6, 1987

SAMPLING SEASON:

Winter (Cold Weather)

DESIGN AVE FLOW:

6,819 m3/d

				PRE-SAN	IPLING PERI	OD		
	PARAMETER :	DAY 1 :	DAY 2 :	DAY 3 :	DAY 4 1	DAY 5 1	DAY 6 !	DAY 7
==	!	:	!	!	!	!	!	
	RAW SEWAGE FLOW	7,205	7,974	6,954	7,567	-,	6,630 :	6,351
	% of Design Flow	105.662	116.9421	101.981	110.972	98.36%	97.231	93.14%
	Influent BOD (mg/L)	97.0 :		80.0				
	Primary BOD (mg/L)	11.01	1	95.0	1			
	Secondary BOD (mg/L)	17.0		1.0		1		
	% PRIMARY REMOVAL	1	1	-18.8 :	1		52.11	
	2 SECONDARY REMOVAL	82.5		98.8 1		1		
	Influent SS (mg/L)	132.0	163.0 ;	146.0 1	187.0	166.0 :		
	Primary SS (mg/L)	110.0 :	84.0 :	72.0 :	70.0 1	79.0 1	1	
	Secondary SS (mg/L)	17.0 1	10.0 ;	9.0 :	10.0	19.0 1	1	
	% PRIMARY REMOVAL	16.7 1	48.5 1	50.7 :	62.6	52.4 :	1	
	% SECONDARY REMOVAL	87.1	93.9 1	93.8 :	94.7	88.6	1	
	Influent NH4 (mg/L)	1	1	1		1		
	Primary NH4 (mg/L)	1	1	- 1		1	;	
	Secondary NH4 (mg/L)	9.9 1	8 1	1	â 8	1	1	
	Z PRIMARY REMOVAL	1		1	1	1		
	I SECONDARY REMOVAL					: [-		
	Influent TKN (mg/L)	19.0 1	1	1	i	i		
	Primary TKN (mg/L)		1	1	1	1	1	
	Secondary TKN (mg/L)	13.2	1	1	1		1	
	7 PRIMARY REMOVAL	70.5		1	1		1	
	% SECONDARY REMOVAL	30.5	·	!	!			
	Influent Total P (mg/L)	3.40		1	1	1		
	Primary Total P (mg/L)	1	1	1	;	1	- 1	
	Secondary Total P (mg/L)	0.23	1	1	1	1	!	
	% PRIMARY REMOVAL	1	1	1	1		;	
	% SECONDARY REMOVAL	93.2 1		15.1	1	1	1	

## WALLACEBURG WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: Feb. 6, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 6,819 m3/d

			PRE-SA	MPLING PER	100		
PARAMETER					DAY 12 1		DAY 14
	1	;		;	<b>*****</b>	;	
RAW SEWAGE FLOW	8,246 1	6,912 :	7,902 :	7,721 :	7,104	5,574 :	
% of Design Flow	120.932	101.36%	115.88%	113.232	104.182	1	
Influent BOD (mg/L)			80.0 :				
Primary BOD (mg/L)	1	1	75.0 :	3 1	1	1 1	
Secondary BOD (mg/L)	1	2 2	5.0 1	1 1	1	1	
I PRIMARY REMOVAL	1	1	6.3 1	1	3 8	1	
% SECONDARY REMOVAL	1	1	93.8	1	1	;	
Influent SS (mg/L)	141.0	;	153.0	166.0	107.0	;	
Primary SS (mg/L)	78.0 :	80.0 :	89.0 1	61.0 1	53.0 1	9 1	
Secondary SS (mg/L)	12.0 :	11.0 :	14.0 :	11.0 :	9.0 ;	1	
I PRIMARY REMOVAL	44.7 1	8	41.8 :	63.3 :	50.5 :	8 8	
% SECONDARY REMOVAL	91.5 1	;	90.8	93.4	91.6		
Influent NH4 (ag/L)		1	1				
Primary NH4 (mg/L)	1	1 1	£	1	1	1	
Secondary NH4 (mg/L)	1	9 2	9.8 1	:	1	8 8	
Z PRIMARY REMOVAL	1	1	8 9	3 3	1 1	8	
1 SECONDARY REMOVAL							
Influent TKN (mg/L)	3	1	19.5	1 1 5	3	1	
Primary TKN (mg/L)	. 2	1 1	1 1	1	1 1	9 9	
Secondary TKN (mg/L)	:	8	13.8	1	8	1	
I PRIMARY REMOVAL	3 2	1	1 0	ŧ	1 1	8	
1 SECONDARY REMOVAL		1	29.2				
Influent Total P (mg/L)	1	1	3.50	:		1	
Primary Total P (mg/L)	1	1 1	3	1	1	9 9	
Secondary Total P (mg/L)		1 2	0.26 1	1 1	3 8	3 3	
% PRIMARY REMOVAL	1	1 1	£ 8	£ 8	1 1	8	
% SECONDARY REMOVAL		2 2	92.6 1	8	1	9 9	

# OPERATIONAL EVALUATION FOR: NALLACEBURG NPCP

TREATMENT FACILITY: Secondary PERIOD ENDING: Feb. 6, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVG FLOW: 6,819 m3/d

11				SAMP	LING PERIO	D	
!	PARANETER	DAY 15 :	DAY 16 :				; DAY 21
-	RAW SENAGE FLOW	7,254	6,234	7,356	6,191		1
2 2 2	% of Design Flow	106.38%	91.42%	107.88%	90.79%	105.662	1
!	Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL						
1	Influent SS (mg/L) Primary SS (mg/L)	152.0	175.0	151.0	107.0	157.0	1
	Secondary SS (eg/L) I PRIMARY REMOVAL	13.0	10.0	12.0	11.0	18.0	8 8
	Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL	91.4	94.3	12.3	89.7	88.5	          
	Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) I PRIMARY REMOVAL I SECONDARY REMOVAL			22.0 i			       
	Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) I PRIMARY REMOVAL SECONDARY REMOVAL			4.10 { 0.70 } 82.9 }			

	PLANT TYPE : Secondary	ME :	Wall	aceburg						SAMPL	SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight	: Raw Sewage : Wet Weight	rwage			
CONTAM-	CONTAMINANT NAME	SEL SEL	UNITS QC PI CODE MIN.	CONC	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.
CONVENTIONALS	ONALS															
8008	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND	P. P.		62.00	87.40 266.00	87 87 8	N 10 10	100.0	267	266	99.6	73.88	140.23	1.16	1.93	100.0
NNHTHR	DISSOLVED ORGANIC CARRON AMMONITM, TOTAL, FILT, FREAC.	55	000	19.80	22.00	n en e	n en e	0.000	27.5	274	99.6	18.38	15.39	1.14	1.69	0000
PH	(-LOC(H+(CONCN))	me.		6.83	7.25	n wn s	n wa s	100.0	275	275	100.0	6.95	6.90	1.02	1.05	100.0
RSP NNOTFR	PHOSPHORUS, UNPTLT.TOTAL RESIDUE, PARTICULATE NITRATES, TOTAL PILT.REAC.		000	3.79 75.80 0.25	4.90 91.70 0.25	10 W W	, on	100.0 20.0	267 275	266	100.0 99.6 10.2	83.84 0.06	5.18 126.88 0.05	1.08	1.51	100.0
METALS																
ALUT	ALUMINUM,UNPILT.TOTAL. CHROMILM,UNPILT.TOTAL.	200		500.00	930.00	00	00	100.0	322	306	95.0	700.00	51.10	82.1	3.44	97.3
CULT	COMPER, UNFILT TOTAL.	ne.		890.00	890 00	-	-	100.0	49	48	98.0	890.00	110.60	0.00	2.28	97.1
FIRS	STRONTHIM INFIL TOTAL	2		240.00	400.00	· · ·	0 0	100.0	322	103	32.0	290.00	38.80	1,57	2.70	54.1
ZNIT	ZINC, UNIM, T. TOTAL	5		50.00	250.00	9	9	0.001	322	315	8.79	120.00	211.00	1.69	2.94	0000
HOUT	MERCURY, UNFILT. TOTAL.	Non.		0.10	0.13	9 4	so r	83.3	283	274	3.05	91.0	0.23	2.49	211	100.0
AGUT	SBLVER, UNFILL TOTAL. COBALT, UNFILL TOTAL.	333	000	20.00	20.00	100	) as	16.7	321	82 28	25.5	10.00	10.40	217	255	75.7
		1														
BASENEU	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	UNDS														
PMANP PMMCRE	←NITROPHENDI. M-CRESOI.	22	- 2	31.50	31.50	80 80		20.0	275 275	167	1.1	15.04	12.65	1.51	1.29	8.1
PESTICID	PESTICIDES, HERBICIDES, PCBS															
P324D P18HCG P1DMDT P3SILV	24-DICHLOROPHENOXYACETIC ACED GAMMA-BHCHEXCHLORCYCLIBXANB) METHOXYCHLOR SILVEX	3333	e c ≃ e	0.00	0.15 0.10 0.10	80 80 80 80	62	86.0 26.0 20.0 20.0	276 276 276 276	214 143 47 28	77.5 51.8 17.0	0.02	0.02	242	3.72 2.29 3.14 1.68	100.0 94.6 43.2 40.5

PLANT NAME: Wallaceburg PLANT TYPE : Secondary

SAMPLING TYPE: Final Effluent SAMPLE FORM: Wet Weight

		INV	YFF	PLANI IYPE : Secondary	ndary							Ve	MPLE FC	SAMPLE FORM : Wet Weigh	et Weight				
CONTAM- INANT	CONTAMINANT NAME	CODE CODE		QC STD. FOR CODE SURFACE WATER	STD. FOR STD. REF. SURFACE WATER	F. PLANT MIN. CO! , DI.	PLANT PLANT MIN. CONC. MAX. DET. > DL. CONC.		PLANT PI	PLANT	PLANT & FREQ. DET.	GLOBAL #	GLOBAL # DET.	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.
CONVENTIONALS	ONALS		-19	- 10				u u						7					
BODS COD DOC	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLVED ORGANIC CARBON	me me	000			42.			אי וא מי	<b>20</b> 20 20	100.0	213	2112	99.1 100.0	9.72 57.00	21.22 52.80 8.09	141	1.83	100.0
NNOZPR NNOZPR NNOTPR NNTKUR	AMMONIUM,TOTAL PILTREAC, NITRITEPILT REACT, NITROGEN-TOTAL PILTREAC, HITROGEN-TOT-KLEL,UNF-TOT	med and	00000			E 0 0 2 2	13.70 19 0.21 0.025 0.015.20 22 22 22 22 22 22 22 22 22 22 22 22 2	0.40 0.80 22.70	<b>80 80 80 80 80</b>	****	100.0 100.0 100.0	223	204 194 222 234	88.2 88.2 100.0	16.73 0.29 0.47 19.16	3.90 0.22 2.33 7.97	1.18	6.98 5.95 7.75 2.71	26.4 100.0 100.0
RSP	PHOSPHORUS, UNFILTTOTAL RESIDUE, PARTICULATE	med.	000			0.8			n w w		100.0	2112	206	97.6	0.55	10.12	331	1.97	1000
METALS																			
SRUT	COPPER, UNPIL, TOTAL STRONTIUM, UNPIL, TOTAL ZINC, UNPIL, TOTAL	222	000	\$750.00 \$750.00	ONT-MOE ONT-MOE ONT-MOE				- 99	- 9 9	100.0	267	30 267 262	63.8 100.0 98.1	240.00	13.10 340.90 53.30	132	214	100.0
HGUT	CHROMIUM, UNPIL, TOTAL, MERCURY, UNPIL, T. TOTAL NICKEL LIMER T. TOTAL	22	000	100.00	NT-MOE				· · ·	es es	83.3	233	220	S13 94.4	30.00	9.00	22:	200	100.0
CCNPUR	CYANIDE-PREE, UNFILT REAC. COBALT, UNFILT TOTAL. LEAD, UNFILT TOTAL.	333	0000	25.00	ONT-MOE NYS-STD ONT-MOE	10.00		30.00	o en en en	n n n n	33.3	2522	5288	24.4	10.00	1.30 6.40 16.50	184	3.68	2.3.4.2.8 1.0.8
PESTICIDE	ALUI ALUMINUM, UNITELI TOTAL. PESTICIDES, HERBICIDES, PCBS	2	0	75.00	ONT-MOE				•	-	16.7	792	196	74.2	80.08	101.70	1.94	3.72	<b>8</b>
P1BHCG P324D	GAMMA-BHCHEXCHLORCYCLHEXANE) 2,4-DICHLOROPHENOXYAGETIC ACID	22	01 FD	4.00	ONT-MOB ONT-MOB		0.02 0	0.03	en en	. 44	80.0	227	157	69.2 78.0	0.03	0.02	279	471	100.0
VOLATILE	VOLATILES ORGANIC COMPOUNDS			,															
XITRIC XIGHLO XII2GB	TRICHLOROETHYLENE CHLOROFORM 1,2-DICHLOROETHANE	333		3.00 0.20 0.80	NYS-GUL NYS-STD NYS-STD		2.20 3. 3.90 20 2.00 2	20.00	an an an	N E1 ==	20.0	222	4 4	7.6 16.5 1.8	3.20	1.12	1.13 3.47 1.36	1.55 2.18 1.30	22.6

PLANT NAME: Wallaceburg PLANT TYPE: Secondary

SAMPLING TYPE: Recycle
SAMPLE FORM: Wet Weight

GLOBAL & PREV. 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0. 63 8 17 8 SPREAD GLOBAL 5.65 525 PLANT FACTOR 3.81 28 GLOBAL GEO. MEAN 874.70 1814.00 109943.30 41620.20 308.60 1347.00 3112.40 72.30 1.68 429.50 \$62.69 28798.20 146.20 0.41 324.28 3.43 6.94 53.83 2242.77 739.82 GEO. MEAN 4140.00 3960.00 1920.00 1.49 0000 0.62 \$06.96 650.60 93.11 371.38 1.02 417.85 7.56 9550.00 40,00 54110.00 79030.00 12680.00 GLOBAL % FREQ. DET. 96.2 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 1 00.0 00.0 88.6 00.0 000.0 62.8 62.9 GLOBAL DET 12 2 8 GLOBAL SAMPLES 63 33 8841141444 FLANT % FREQ. 0.00 33.3 66.7 66.7 66.7 PLANT DET. m -SAMPLES PLANT 2 UNITS QC PLANT PLANT CODE MIN. CONC. MAX. DET. 4140.00 531.00 1780.00 1124.00 419.00 7.76 44.10 1490.00 4800.00 3200.00 200.00 5.00 470.00 30.00 CONC. 10.00 3.90 25000.00 1300.00 19000.00 12000.00 > MDL 484.00 75.60 326.00 0.65 388.00 7.38 1.60 482.00 00'0099 6290.00 2990.00 20.00 20.00 0.55 220.00 10.00 30.00 260.00 900.00 249.50 13860.00 4140.00 03800 00 23810.00 0.25 000000000 0000000000000 m m 22222 222 No. 55 55555555555555555 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS 24-DICHEOROPHENOXYACKTIC ACID 245-TRICLORPHENOXYACETIC ACID DISSOLVED ORGANIC CARBON AMMONIUM,TOTAL, FILT.REAC. NITRATES, TOTAL, FILT.REAC. MOLYBDENUM, UNFILT. TOTAL NITROGEN-TOT-KJEL, UNP. TOT CHEMICAL OXYGEN DEMAND CYANIDE FREE, UNFILT REAC. BOD, 5 DAY -TOTAL DEMAND PHOSPHORUS, UNPIL, T. TOTAL MAGNESIUM, UNPILIT TOTAL STRONTHUM, UNFILT. TOTAL. ALUMINUM, UNFILT. TOTAL CHROMIUM, UNFILT. TOTAL MERCURY, UNPILITOTAL LEAD, UNPILITOTAL CALCIUM, UNPILT, TOTAL ARSENIC, UNIVILIT. TOTAL RESIDUE, PARTICULATE NITRITE FILT. REACT. CONTAM- CONTAMINANT NAME COPPUR, UNITE, T. TOTAL COBALT, UNITILT. TOTAL NICKEL, UNFILT TOTAL. SILVER, UNFILT. TOTAL. IRON, UNFILT. TOTAL. ZINC, UNITIL T TOTAL PESTICIDES, HERBICIDES, PCBS (-1.0G(11+(CONCN)) M-CRESOL CONVENTIONALS PMMCRE DOC NNHTFR NNOTFR RSP NNO2FR NNTKUR CCNFUR P324D P3245T INANI MOUT AGUT HGUT BOD5 CULT PEUT SRUT ZNICT PRUT 198V 000

PLANT NAME: Wallaceburg PLANT TYPE: Secondary

SAMPLING TYPE : Raw Sludge

	PLANT TYPE : Secondary	PE : S	Secondary						SAMPL	SAMPLE FORM	Dry	Dry Weight			
CONTAM- INANT	CONTAMINANT NAME	UNITSQA (DRY CO WEIGITT)	UNITSQA/QC. PLANT PLANT (DRY CODE MIN. CONG. MAX., DET. PEIGHT) > DL. CONG.	PLANT MAX. BET. CONC.	PLANT # SAMPLES	PLANT	PLANT S. PREQ. DET.	GLOBAL.	GLOBAL.	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO, MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL
CONVEN	CONVENTIONALS														
COD NNTKUR PH PHENOL. PPRJT RST RST	CHEMICAL OXYGEN DEMAND NITROGEN-TOT-KUEL, UNF-TOT (-LOCKH-(CONCN)) PHENOL.ICS (4AAP) PHOSPHORUS, UNFILT-TOTAL RESIDUR, TOTAL RESIDUR, TOTAL	******	0 1128823.53 0 33400.00 0 640 0 79.41 0 27810.00 0 34000.00	1128823.53 33400.00 6.40 79.41 27810.00 34000.00 20502.00			100.0 100.0 100.0 100.0 100.0	\$ 2 \$ \$ 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	\$ 12 \$ 4 £ 2 12 12 2 12 12 12 12 12 12 12 12 12 12 12 12 12	100.0 100.0 100.0 100.0 100.0	1128823.53 33400.00 640 79.41 27810.00 34000.00 20502.00	892221.45 36897.85 6.03 82.34 20347.70 32783.51 20803.05	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3.19 2.28 1.10 3.54 4.43 1.71	100.0 100.0 100.0 100.0 100.0 100.0
METALS															
AGUT ALUT ASUT COUT	SBLVER,UNFBLTTOTAL, ALUMINUM,UNFBLTTOTAL, ARSENIC,UNFBLTTOTAL, CORALT,UNFBLTTOTAL,			15.88 7647.06 7.06 11.76			100.0 100.0 100.0	****	30 S S S S S S S S S S S S S S S S S S S	88.9 100.0 98.0 73.2	15.88 7647.06 7.06 11.76	30.17 9835.74 6.13 9.29	8 8 8 8	2.61 2.51 2.01 4.69	84.4 100.0 97.1 73.3
CCUCT HGIT MOUT NR.T	CORPORUMENT TOTAL CORPER UNFILL TOTAL MERCI RY UNFILL TOTAL MOLYBDENTM, UNFILL TOTAL MOLYBDENTM, UNFILL TOTAL		0 8235.29 0 4055.88 0 1.47 0 2558.82	8235.29 4055.88 1.47 10.29 2558.82			0.000	2 4 8 7 8 5	08	98.0 100.0 62.2 95.7	8235.29 4055.88 1.47 10.29 2558.82	301.43 606.31 2.23 5.80 59.17	88888	3.68 1.72 2.88 2.90	97.1 100.0 100.0 64.3 93.3
SRUT ZNUT	LEADURNIT TOTAL. SPECIAL STRONTHEM, UNFILL TOTAL. ZINC, UNFILL TOTAL.	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0 208.82 0 208.82 0 911.76	208.82 208.82 911.76			100.0	8 18 18 18 18 18 18 18 18 18 18 18 18 18	\$ \$ 55 S	98.0 100.0 100.0	208.82 3.24 208.82 911.76	173.99 3.04 231.70 905.39	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	2.39 1.93 2.39	93.9 100.0 100.0
	PESTICIDES, HERBICIDES, PCBS			<b>.</b>											
PIRRICG PICHIA PICHIA PIRETT PIPPOR PIRAST PIRAST PIRAST PISSILV X24CB	GAMMA, BI ECHENCHLORCYCLI HEXANE) WARE GAMMA CHLORDANE WAS GAMMA CHLORDANE WAS HEPTACHLOR ON YOLLORDANE WAS ENGLORDANE WAS PERICHORDANE WAS PEDIDE 24.5-FRICHORPHENOX YACETIC ACID WAS SLANCK SHARK SHARK SHARK WAS HEXACHLOROBENZENE WAS BLAKE.	2 2 2 3 3 3 3 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6	11.80 1 8.80 1 8.80 3 5.90 2 73.50 1 8.80 1 8.80 3 35.29 3 35.29 5.90	111.80 8.80 8.80 5.90 8.80 73.50 8.80 41.20 35.20 38.20			100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	28 118 119 22 22 22 23 23	54.9 35.3 37.3 37.3 13.7 18.4 43.1 45.1 45.1 33.3	11.80 8.80 8.80 5.90 8.80 73.50 8.80 41.20 38.20 38.20	8.90 5.90 6.00 6.00 4.50 7.30 48.20 93.20 47.30 47.30	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	2.69 2.28 2.27 2.21 2.31 2.31 2.34 5.50 2.40 2.50	97.7 47.1 20.6 20.6 20.6 22.9 47.1 82.3 36.5 36.9

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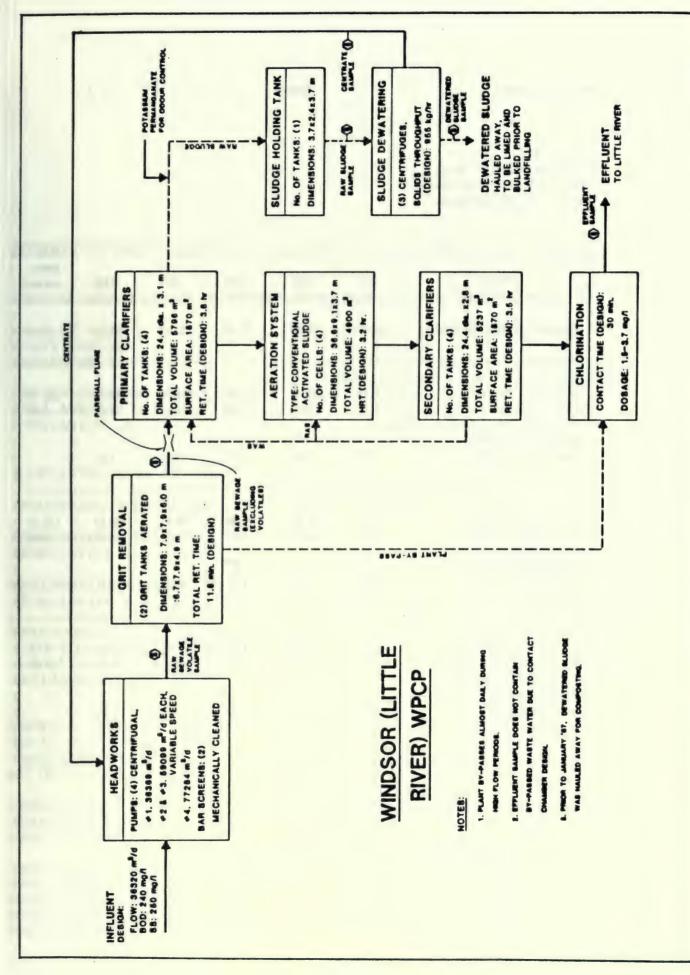
CONVENTIONALS   CONTAMINANT NAME   CONTAMINANT NA		PLANT	PLANT NAME: Wallaceburg PLANT TYPE: Secondary	Wallaceburg Secondary						SAMPL	SAMPLING TYPE: Treated Sludge SAMPLE FORM: Dry Weight	E : Treat	reated Sludge Dry Weight			
REPAIR CONTINUE   CHARGE   C	CONTAM- INANT	CONTAMINANT NAME	UNITSQA/ (DRY COF WEIGHT)		PLANT MAX. BET. CONC.		PLANT # DET.	PLANT % PREQ. DET.	GLOBAL. # SAMPLES	GLOBAL # DET	GLOBAL % PREQ. DET.	FLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
STATISTICAL CONTINUENCY   STATISTICAL CONT	CONVENT	IONALS														
HICKNICK (AAPT)	S STATAN	NTBOGEN TOT KIRL UNP TOT		34500.00	34500.00	-	-	100.0	49	49	100.0	34500.00	38494.12	0.00	1.7	0.001
HENDERLICATIONAL MARKE O 2 200001 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2110010 2	Pil	(TOXICH+(CONCN))		7.60	7.60			100.0	47	4.4	1000	42.13	43.09	0.00	3.14	87.9
HASIDIR:   TOTAL	MINOI.	PHENOLICS (4AAP)		\$2.13	52.13			100.0	43	. 4	1000	26900.01	76638.67	0.00	6.91	1000
HENDING, IOTIOSS ON KON.   mg/kg   0   1704 KON   1   10   10   10   10   10   10   10	LIKK	PHOSPHORUS, UNITET TOTAL		211000 00	211000 00		. –	0.001	90	90	100.0	211000.00	80434.04	000	3.23	0.001
A STANDARI TOTAL.  A STANDARI MARINE TOTAL.  A STANDARI MARINE TOTAL.  A STANDARI MARINE TOTAL.  MARKE OF OTTAL MARK OF OTTAL MARKE OF OTTAL	RSTI.OI	RESIDUE, TOT LOSS ON IGNI.		97904 00	97904 00	-	_	0.001	08:	20	0 001	97904.00	43379.33	000	3.19	0.001
SEGNETINFELTIOTAL MILES OF 1019 1019 1019 1019 1019 1019 1019 101	METALS															
AUTHER DIVIDES TO THE TOTAL.  MARK O 1019 1 1019 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1 1010 1					4		-	900	*	**	0 001	1019	37.78	0.00	2.33	0.001
ARSHNICHMENT TOTAL.  MAKEN CONTRICT TOTAL.  M	AGUL	SB.VER,UNFILLTOTAL		Č	61010			0.001	9	20	100.0	9715.64	1071594	000	2.82	100.0
A CHRISTIAN LINEAR COMPOUNDS  CONSTITUES ORGANIC COMPOUNDS  CONSTITUENT COMPOUNDS  CO	ALLT	ALUMINUM, UNITE L'TOTAL.		47	2017			0 001	90	49	0.86	972	5.40	000	2.06	1.79
CHROMITIMATITYTYAL. Implies 1 2408 15 1 1 100 1 546 15 1 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 1	ASIT	ARSENIC LINEIL T. TOTAL.			90 8			1000	19	32	82.1	8.06	9.14	0.00	2.75	85.7
CONTINUES ORGANIC: COMPONINDS   CONTINUES ORGANIC: CONTINUES   CONTINUES ORGANIC: CONTINUES   CONTINUES ORGANIC: CONTINUES   CONTINUES ORGANIC: CONTINUES	COLIT	COBALT UNITED TOTAL		7.48	7.4KE 15			0 001	\$0	80	100 0	7488.15	113.06	0.00	1.59	100.0
MERCITE ALTOTAL   Marks 0	CRUT	CONTRACTOR OF TOTAL			4962 (19	_	-	0 001	4.5	4.5	0 001	4962.09	732.24	000	2.16	0.001
NEWTHAN TOTAL   Magara   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34   1991-34	HOUR T	IVIOLIL BONI AND PROPERTY			1.46	-	-	100.0	90	49	0.86	3.46	3.24	0.00	3.0%	000
ILAMONINITITIOTAL	Naci	NICKEL UNTIL TOTAL		-	2191.16	-	-	0.001	45	42	6 6 6	100.05	106.63	000	2.46	97.1
SELENIMIA INPITETOTAL. INEXAS 0 0.08 1 1 1 100.0 5.0 5.0 100.0 2.54 11 1 100.0 5.0 5.0 100.0 2.54 11 1 100.0 5.0 5.0 100.0 2.54 11 1 100.0 5.0 5.0 100.0 2.57 11 1 100.0 5.0 5.0 100.0 663.5 988.90 0.00 2.57 11 1 100.0 5.0 5.0 100.0 663.5 988.90 0.00 2.57 11 1 100.0 5.0 5.0 100.0 663.5 988.90 0.00 2.57 11 1 100.0 5.0 5.0 100.0 663.5 988.90 0.00 2.57 11 1 100.0 5.0 5.0 100.0 663.5 988.90 0.00 2.57 11 1 100.0 5.0 5.0 5.0 100.0 5.0 7.10 0.00 3.54 11 1 100.0 5.0 5.0 5.0 5.0 100.0 5.0 5.0 7.10 0.00 3.54 11 1 100.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	PBUT	LEAD, UNITELT TOTAL.			199.05			0.000	06	7 7	0 96	0.38	2.67	00.0	2.98	1.79
STRONTHUM, INPIET, TOTAL.  STRONTHUM, INPIET, TOTAL.  MEANS 0 228533 24853 1 1 100.0 50 100.0 66551 988.90 0.00 2.57 11  STRUCTURAL. AND ACID EXTRACTABLE COMPOUNDS.  INPIETRAL. AND ACID EXTRACTABLE COMPOUNDS.  ATHLES ORGANIC COMPOUNDS.  ILD. CHILDROPPORM CCHCL3.3 12853 24853 1 1 100.0 50 12 28.0 750 100.0 433	SHUT	SELENRIM, UNFILT TOTAL.		•	0.38			000	Ş	08	1000	208.53	240.93	00.00	2.54	100.0
THALAND ACID EXTRACTABLE COMPOUNDS  AND PURANS  OCTACHLORODIBENZODIOXIN ug/kg 1 4.50 4.50 1 1 100.0 49 26 53.1 4.50 7.10 0.00 3.84  ES ORGANIC COMPOUNDS  CHLODROPORM CHCL3 Ug/kg 1 7.60 7.60 1 1 100.0 50 12 24.0 7.60 441.70 0.00 4.33	SRUT	STRONTIUM, UNITELT TOTAL. ZINC, UNITEL FOTAL.			663.51			100.0	80	20	100.0	18:299	988.90	0.00	2.57	100.0
AND PTURANS OCTACHI, ORODIBENZODIOXIN ug/kg 1 4.50 4.50 1 1 1 100.0 49 26 53.1 4.50 7.10 0.00 3.84  ES ORGANIC COMPOUNDS CHLANROUNDS CHLAN	BASENE	ITRAL AND ACID EXTRACTABLE CO	MPOUNDS													
AND PURANS  OCTACHI.ORODIBENZODIOXIN  UB/KB 1 4.50 4.50 1 1 100.0 49 26 53.1 4.50 7.10 0.00 3.84  ES ORGANIC: COMPOUNDS  CHI.OROPIONM (CHCL3.) UB/KB 1 7.60 7.60 1 1 100.0 50 12 24.0 7.60 441.70 0.00 4.33																
OCTACH CHODIBENZODIOXIN ug/kg 1 4.50 4.50 1 1 1 100.0 49 26 53.1 4.50 7.10 0.00 3.84 ES ORGANIC COMPOUNDS  CHIADROPORM CHOLLS	DIOXINS	ANDFURANS														
ESS ONGANIC COMPOUNDS  CHIJOROPORM (CHCL3) ug/lg 1 7.60 7.60 1 1 1 100.0 50 12 24.0 7.60 441.70 0.00 4.33	P98CDD	OCTACH, ORODIBENZODIOXIN	ug/kg		4.50	-	-	100.0	49	26	53.1	4.50	7.10	0.00	3.84	6.3
CHLOROFORM (CHCL3) ug/16 1 7.60 7.60 1 1 1 100.0 50 12 28.0 7.60 441.70 0.00 4.33	VOLATIL	ES ORGANIC COMPOUNDS														
	XICHEO	CHLOROFORM (CHCL3)	ug/kg		7.60	-	-	100.0	50	12	24.0	7.60	441.70	00'0	4.33	35.3

## Sub-Appendix A-35

## Windsor (Little River) WPCP

#### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Windsor (Little River) WPCP
- o Analytical Data



LITTLE R. WPCP
Conventional Activated Sludge
Phosphorus Removal - Continuous
Capacity - 36.368 18(3) m3/day

PARAMETER	1981	1982	1983	1984	1985	MEAN ANNUAL AVERAGE
Avg. Daily Flow (1888 m3/day)	38.91	39.82	32.28	31.61	45.02	34.13
BODS - Influent (mg/L) BODS - Effluent (mg/L)	98.98 3.68	; ; ; 115.10 ; 3.48	87.00 3.00	1 1 114.58 1 4.75	98.88 5.33	102.72
Annual BOD5 Significantly Different from Mean	1.0.	1	<b>!</b>	 		1
Annual Average BOD5?	1. <i>V</i> .	1.D.	1.D.   	1.V.	I.D.	
TSS - Influent (mg/L)	146.60	175.48	98.88	140.42	138.67	138.22
TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean	6.68	6.88	8.88	9.92	9.50	8.16
Annual Average TSS?	1.D.	1.0.	1.D.	I.D.	1.D.	
Total P - Influent (mg/L)	6.00	5.98	4.48	5.56	4.87	5.35
Total P - Effluent (mg/L) Annual TP Significantly	8.39	8.41	8.43	1.22	8.83	8.65
Different from Mean Annual Average TP? TP in Compliance?	! ! I.D. ! Y	i i.D.	I.D.	1.D.	1.D.	; ; Y
	1	1			3 4	:

# I.D. - Insufficient Data

# SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

# GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP	WINDSOR LITTLE	RIVER WPCP
WORKS NUMBER	110000374	
	CONVENTIONAL AC	TIVATED SLUDGE
	PHOSPHORUS REMO	
DESIGN CAPACITY (1000 m3/d)		
1986 AVERAGE DAY FLOW (1000 m3/d)	43 790	
POPULATION SERVED	64000	
POPULATION SERVED	64000	
A AR MARKE PLAN SMERT TRUMPS HA		
% OF TOTAL FLOW ATTRIBUTED TO:		
INDUSTRIAL SOURCES (%)	24	
INDUSTRIES DOURCES (0)	2.	
COMMERCIAL SOURCES (%)		
(Population x 0.0757)	11	
(ropulation x 0.0757)	11	
RESIDENTIAL SOURCES (%)		
(Population x 0.175)	26	
(ropulation x 0.175)		
UNACCOUNTED FOR, INCL. INFILTRATIO	M 30	
(100-% Contributed from	N 33	
industrial, commercial and		
residential sources)		
PROFILE OF INDUSTRIES IN CATCHMENT		
TOTAL NO OF INDUSTRIES	150	
INDUSTRIES WITH WATER	42	
NO OF SIC CATEGORIES	23	
DESCRIPTION OF THE TOP 5 INDUSTRIE	S DISCHARGED TO	THE WPCP
(BASED ON WATER USE DATA)		
DESCRIPTION	SIC # OF	
	COMPAN	IIES
INSTRUMENTS AND RELATED PRODUCTS	3811-3873	3
TRANSPORTATION EQ'T	3711-3799	5
METAL FINISHING	3411-3469	9
WINDS TITOTHERS TO IT	0.000 0.000	

3693-3699

3500-3599

MISC. ELECTRICAL EQ'T

MACHINERY MFG

### WINDSOR (LITTLE RIVER) WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: Feb. 20, 1987

SAMPLING SEASON:

Winter (Cold Weather)

DESIGN AVG FLOW:

36,320 m3/d

	11				PRE-SAI	MPLING PERI	OD		
	11	PARAMETER	DAY 1 :	DAY 2	DAY 3 ;	DAY 4 :	DAY 5 1	DAY 6 :	DAY 7
	11		43,500	40,800	36,300	35,400	1	39,000	41,700
	11		119.77%	112.33%	99.94%	97.47%	98.57%	107.38%	114.817
	1 1 1 1 1 1	Influent BOD (mg/L) Primary BOD (mg/L)	171.0	210.0	164.0	149.0	113.0	124.0	140.0
	11	Secondary BOD (mg/L)	8.0 :	5.0 1	5.0 :	11.0 :	4.0 1	3.0 1	3.0
	11	% SECONDARY REMOVAL	95.3	97.6	97.0	92.6	96.5 1	97.6	97.9
	11	Influent SS (mg/L)	244.0	290.0	192.0	192.0	151.0	150.0	182.0
	11		11.0	7.0 1	8.0 :	13.0 :	11.0 1	7.0 :	8.0
	11		95.5	97.6 1	95.8	93.2	92.7	95.3 1	95.6
3	{ !! { !!	Influent NH4 (mg/L)	14.2	12.8	. !	:		:	5.4
3	{ !!	Secondary NH4 (mg/L) % PRIMARY REMOVAL	1.0 ;	0.6 :	!	1 1 1	1	- 1	1.3
	11	% SECONDARY REMOVAL	93.2	95.3 1		!·			75.9
	11	The state of the s	25.3	23.2	1	1	1	1	14.0
	11	Secondary TKN (mg/L)	2.4	2.4 !	1	† †	- !	1	1.3
	11		90.5 1	89.7 :	!		!		90.7
	11	Influent Total P (mg/L)	6.90	6.20	4.60	5.10	4.60	4.00	3.70
	11	Secondary Total P (mg/L)	0.50	0.19 :	0.34	0.42 :	0.46 :	0.30 :	0.32
	11		92.8 1	96.9 :	92.6 :	91.8 1	90.0 1	92.5 1	91.4

Note: 1. Overflow occurred on Feb. 3,6,7,8.

2. Chemical feed pumps were NOT operational on Feb 15-19.

 Vandals broke into plant/adjusted air valves & gates thus upsetting the biological process.

### WINDSOR (LITTLE RIVER ) WPCP

TREATMENT FACILITY: Secondary

PERIOD ENDING: Feb. 20, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AV6 FLOW: 36,320 m3/d

	11			PRE-SA	MPLING PER	IOD		*****
	PARAMETER	: DAY 8 :			DAY 11 :		DAY 13 :	DAY 14
	11	1		1	1	1	:	
	RAW SEWAGE FLOW	34,000	34,900 :	34,000	34,000 :			
	21 2 of Design Flow	93.61%	96.09%	93.61%		114.81%		
	:: Influent BOD (mg/L) :: Primary BOD (mg/L)	145.0	148.0		172.0	226.0		
	Secondary BOD (mg/L)	7.0		4.0	3.0 :	5.0 :	4.0 :	21.0
	1 SECONDARY REMOVAL	95.2 1	95.9 1	96.3	98.3 1	97.8		
	:: Influent SS (mg/L) :: Primary SS (mg/L)	171.0	174.0	128.0	172.0	228.0	•	214.0
	Secondary SS (mg/L)	16.0	12.0	11.0	8.0	14.0	7.0	
	11 % SECONDARY REMOVAL	90.6	93.1 (	91.4		93.9	96.8 1	92.5
H3	{ !! Influent NH4 (mg/L) { !! Primary NH4 (mg/L)	6.8	6.8	1			i	
H3	( !! Secondary NH4 (mg/L)	0.8	1.4			1		
	I SECONDARY REMOVAL	88.4 1	79.4 :	1	:	1	:	
	!! Influent TKN (mg/L) !! Primary TKN (mg/L)	11.7	12.2				;	
	Secondary TKN (mg/L)	2.6	1.7			8 8	1	
	11 % SECONDARY REMOVAL	77.8 :	86.1		:	1	!	
	Influent Total P (mg/L) Primary Total P (mg/L)	4.60	5.00	4.30	5.50	8.00	8.50	5.10
	Secondary Total P (mg/L)  REMOVAL	-	0.38	0.46	0.34	0.64	0.51	
	:	67.4 :	92.4	89.3	93.8 :	92.0 :	94.0 ;	78.4

Note: 1. Overflow occurred on Feb. 3,6,7,8.

<sup>2.</sup> Chemical feed pumps were NOT operational on Feb 15-19.

Vandals broke into plant/adjusted air valves & gates thus upsetting the biological process.

### WINDSOR (LITTLE RIVER) WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: Feb. 20, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVG FLOW: 36,320 m3/d

11				SAME	LING PERIO	D		
11	PARAMETER	: DAY 15		DAY 17			 	
	RAN SEWAGE FLOW	27,600	28,100	28,100	29,500	29,000		! !
11	% of Design Flow	! ! 75.991 !	77.371	77.372	81.227	79.85%		
11	Influent BOD (mg/L)	173.0	159.0	125.0	219.0	107.0	 	
11	Primary BOD (mg/L) Secondary BOD (mg/L) Z PRIMARY REMOVAL	27.0	27.0		3.0	28.0		1
11	1 SECONDARY REMOVAL	84.4	•		98.6			!
	Influent SS (mg/L) Primary SS (mg/L)	135.0	140.0	124.0	217.0	106.0		
	Secondary SS (mg/L) 7 PRIMARY REMOVAL	6.0	8.0	9.0	16.0	9.0		
11	% SECONDARY REMOVAL	95.6	94.3	92.7	92.6	91.5	 	!
	Influent NH4 (mg/L) Primary NH4 (mg/L)	15.7	18.5					
	Secondary NH4 (mg/L) Z PRIMARY REMOVAL	2.7	2.0					
11-	1 SECONDARY REMOVAL	82.8	89.2				 	 
11	Influent TKN (mg/L) Primary TKN (mg/L)	27.6	32.6					1
11	Secondary TKN (mg/L) I PRIMARY REMOVAL	9.0	1 14.3		1	1		1
11-	% SECONDARY REMOVAL	67.4	56.1	 			 	{
11	Influent Total P (mg/L) Primary Total P (mg/L)	7.40	6.20	5.20				:
11	Secondary Total P (mg/L) Z PRIMARY REMOVAL	0.80	0.99	0.37	0.35	0.45		:
11	% SECONDARY REMOVAL	89.2	84.0	92.9	95.1 1	93.0 :	- 1	!

Note: 1. Overflow occurred on Feb. 3,6,7,8.

2. Chemical feed pumps were NOT operational on Feb 15-19.

 Vandals broke into plant/adjusted air valves & gates thus upsetting the biological process.

Sewage	GEOBAL GEO. MEAN
E : Raw : Wet	PLANT GEO. MEAN
SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight	GLOBAL % FREQ. DET.
SAMPL	GLOBAL
	GLOBAL * SAMPLES
	FLANT FRANT PERSON
	PLANT * DET.
	PLANT # SAMPLES
River)	MAX. DET. CONC.
Windsor (Little River) Secondary	UNITS QC PLANT CODE MIN. CONC. N
Windsor (	OCCODE
LANT NAME :	STIND
TY	
LAN	
E 2	AME
	N LINE
	CONTAMINANT NAM

GLOBAL & PREV.

GLOBAL SPREAD FACTOR

FLANT SPREAD FACTOR

CONTAM: CONTAMINANT NAME INANT

	100.0 100.0 100.0 100.0 100.0 100.0 100.0	97.3	1000	1000 83.8 8.4 1.4	86.5 78.4 27	94.6 100.0 8.1 18.9 37.8 40.5
	1,93 1,81 1,69 1,69 1,05 1,51 1,93	265	2.28	294 231 1.72 2.70	3.45 2.46 1.29	229 372 1.21 1.48 1.60 2.48
	1.52 1.14 1.26 1.01 1.01 1.05 1.10	1,42	0.00	1.38 2.11 2.73 1.56	1.17	140 125 125 126 128
	140.23 287.75 22.39 15.37 25.44 6.90 5.18 1.26.88	1000.10	0.23	211.00 9.30 12.40 38.80	25.59 14.52 5.03	0.02 0.13 0.01 0.01 0.06 0.06
	156.59 28.81 25.55 19.00 27.31 6.79 5.55 106.50	1400.00	50.00 0.16	200.00 20.00 20.00	28.48 13.56 7.09	0.05 0.12 0.01 0.02 0.06 0.06
	99.6 100.0 100.0 100.0 100.0 100.0	95.0	96.8	97.8 25.5 12.8 32.0	60.7 42.9 0.4	51.8 77.5 1.1 3.6 8.0
	266 258 271 274 273 273 266	306	274	315 82 41 103	118	143 214 3 10 35
	260 260 271 275 273 273 248	322	322 49 283	312 322 322 321 322	275 275 275	276 276 276 276 276
	100.0 100.0 100.0 100.0 100.0 100.0	100.0	100.0	100.0 100.0 13.3 13.3	100.0 60.0 20.0	100.0 80.0 20.0 20.0 20.0
		ø	0 - 90 V	00400	ଟେଟ ⊶	Ø ♥ ≈ ≈ ≈ ≈
	*****	9	0 - si 1	0000	<b>49. 49. 49</b>	90 90 90 90 90 90
	265.00 328.00 36.50 19.20 28.00 6.90 5.80	2200.00	50.00	340.00 340.00 30.00 70.00 70.00	28.20 22.90 28.70	0.07 0.04 0.04 0.04 0.04
	232.00 232.00 20.10 18.80 26.30 6.69 5.20 93.00	990.00	30.00 50.00 0.08	20.00 20.00 70.00 50.00	19.00 18.80 28.70	0.00 0.00 0.00 0.14 0.06
	0000000	0		00000	- 2	~~~~
	ASSES SE	Ž	333	33333	NDS TANK	333333
IONALS	BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND DISSOLYED ORCANIC CARBON AMMONIUM,TOTAL FILT REAC. NITROGEN-TOT-KIEL,UNF TOT (4.OC(H+(CONCN)) PHOSH-ORUS,UNFILT-TOTAL RESIDUH, PARTICULATE	ALLIMINUM, UNFILT. TOTAL	CHROMIUM,UNFILT.TOTAL COPPIER,UNFILT.TOTAL MERCURY,UNFILT.TOTAL	STROUTHUM, UNFULT, TOTAL ZINC, UNFULT, TOTAL ZONG, UNFULT, TOTAL MOLYBDISNUM, UNFULT, TOTAL NICKGE, UNFULT, TOTAL	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS * PMMCRR M-CRESO! ug/L PMPHEN PHENOL ug/L PMNITB NITROBENZENE ug/L	PESTICIDES, HERBICIDES, PCBS  PIBHCG 24-DICHLOROPHENOXYACETIC ACID PIALDS ALDRIN ALDRIN ALDRIN PS245 245-TRICI ORPHENOXYACETIC ACID PS2451 245-TRICI ORPHENOXYACETIC ACID
CONVENTIONALS	BODS COD DOC NNHTPR NNTKUR PH PPUT RSP	METALS	CCUUT HIGUT	SRUT ZNUT COUT MOUT	BASE NEU PMMCRE PMIPHEN PMINTE	PESTICID PIBHCG PSAD PIALDR PIHEPT PSAST X2124

PLANT NAME: Windsor (Little River)
PLANT TYPE: Secondary

SAMPLING TYPE : Final Effluent SAMPLE FORM : Wet Weight

GLOBAL & PREV.	100.0 100.0 100.0 100.0 96.4 96.4 100.0 100.0	96.4 177.8 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 1	143	7.1 100.0 96.4 42.9	28.6 10.7 8.7 8.7
GLOBAL OSPREAD PACTOR	207 1.83 1.86 6.98 5.98 7.75 7.75 2.71 1.05 1.97 2.00	3.72 2.86 2.04 2.04 2.00 3.60 1.56 1.48	žī.	290 4.71 2.48 2.27	128
PLANT OF SPREAD SPREAD SPREAD	1.43 1.43 1.43 1.54 1.54 1.24	1.68 0.00 1.46 1.10 1.34 1.33 1.33 1.33 1.33	961	0.00 1.59 2.48 2.02	148 148 158 158
GEO. S GEO. S MEAN P	21.22 52.80 8.09 3.90 0.22 2.33 7.97 7.10 0.68	101.70 13.10 0.03 34.09 9.00 22.10 6.60 24.0 6.40 16.50	1.09	0.08	1.18 1.01 1.00 1.05 1.05
PLANT GEO. MEAN	32.61 78.95 6.51 1.56 0.96 11.01 3.7.2 6.65 6.76	440.00 20.00 6.01 6.01 80.00 10.00 20.00 10.00 20.00	135	030	122 123 124 125 125 125 125 125 125 125 125 125 125
GLOBAL % FREQ. DET.	99.1 99.1 100.0 91.5 88.2 83.0 100.0 100.0 97.6	74.2 60.8 96.4 100.0 98.1 51.3 64.0 28.1 24.3 24.4 24.4	86	78.0	32252
GLOBAL # DET.	211 221 220 204 1194 1186 222 224 224 206	196 30 220 267 267 267 137 137 171 173 65	- 40	2 177 157 23	≅ w ~ ₽ 4
GLOBAL # SAMPLES	213 220 220 220 220 224 224 224 224 224 224	264 41 233 267 267 267 266 266	228	22. 22. 22. 22. 22. 22. 22. 22. 22. 22.	224 224 224 224 224
PLANT % FREQ. DET.	100.0 100.0 100.0 100.0 100.0 100.0 100.0	100.0 100.0 100.0 100.0 100.0 83.3 83.3 86.3 16.7	90.00	100.0 100.0 80.0 20.0	2 2 2 2 2 2 0 0 0 0 0
PLANT # DET.	ં માના મામ મામ મામ મામ મ	\(\rho = \rho \(\rho \rho \rho \rho \rho \rho \rho \rho	6,1-16	874-	goal good good good good
PLANT # SAMPLES	રમ તર્કાત્મ તમ તમ તમ તમ તમ તમ ત	o v o o o o o o o o	w	·· શ્રામ	****
ANT PLANT CONG. MAX. DET. DL CONG.	44,00 118,00 7,70 5,75 1,60 14,10 8,00 6,93 0,91 8,00	720.00 20.00 0.02 120.00 120.00 10.00 20.00 20.00 10.00 10.00	4.50	0.50	210 220 240 3.10 250
PLANT MIN. CONC. N > DL	18.60 55.00 55.00 0.25 0.021 8.00 1.50 6.30 6.30 6.30 4.90	200,000 20,000 20,000 60,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 10,000 1	4.50	0.05 0.05 0.03 0.12	220 220 240 3.10 250
		ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB ONT-MOB	ONT-MOR	ONT-MOB ONT-MOB	NYS-GUL NYS-GUL NYS-GUL NYS-GUL NYS-GUL
CODE SURFACE WATER		75.00 5.00 5.00 375.00 375.00 36.00 190.00 25.00 25.00 25.00	10.00	150.00	8. 8. 8. 8. 8. 9. 9. 9. 8. 9. 9. 9. 9.
242	000000000	000000000	-		
UNITS QC		222222222	INDS	3 333	33333
CONTAMINANT NAME	BOD, 5 DAY -TOTAL DEMAND CHEMICAL, OXYGEN DEMAND DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL ITI. TREAC. NITRATELEU., REACT. NITRATELOTAL ITI. TREAC. NITRATELOTAL ITI. TREAC. NITRACER-TOTALEL, UNF. TOT CLOCKH-(CONCN.) PHOSPHORUS, UNFILT TOTAL RESIDUE, PARTICULATE	ALUMRUM UNFILTTOTAL COPPER, UNFILTTOTAL MERCURY, UNFILTTOTAL STRONTUM, UNFILTTOTAL CHEOMILM, UNFILTTOTAL NICKEL, UNFILTTOTAL CADMILM, UNFILTTOTAL CADMILM, UNFILTTOTAL CADMILM, UNFILTTOTAL CADMILM, UNFILTTOTAL CADMILM, UNFILTTOTAL CADMILM, UNFILTTOTAL COBALT, UNFILTTOTAL	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS PARTITB NITROBENZENB  ***********************************	P98CDP OCTACHLORODIBENZOPURAN PSTICIDES, HERBICIDES, PCBS P34D 2, + DICHLOROPHENOXYA GETIC ACED P18HCG GAMMA-BHC(HEXCHLORCYCLHEXANE) P345T 2,4.5-TRICLORPHENOXYA GETIC ACED	VOLATILES ORGANIC COMPOUNDS  X1111T 1,1,1-TRICHLOROETHANE X111GE 1,1-DICHLOROETHANE X113DR TRANS-1,3-DICHLOROPROPENE X18DCM BROMODICHLOROMETHANE X1CDBM CHLORODIBROMOMETHANE
	BOD, 3D CHEMIC, DISSOLV AMMONI NITRITE, NITRATE NITROGI (-LOG(IH PHOSPH RESIDUE	ALUMIN COPPER, MERCUS STRONT ZINC,UN CHROMI NICKEL, MOLYBI CODMIL COBALT LEAD,UT	BASE NEUTRAL AND ACID! PARTITB NITROBENZENE DIOXINS AND FURANS	DES, HERBIN 24-DICT GAMMAD 24,5-TR	LES ORGAN 1,1,1-TR 1,1-DIC 1,1-DIC TRANS- M BROMO M CHLORE
CONTAM.	CONVENTIONALS BODS COD CHEM DOC CHEM DOC DISSO NNITTR AMM NNOZR NITRI NNOZR NITRI NNOTR NITRI	AUJT CCUT HGUT SRUT ZNUT CRUT NIUT NIUT COUT COUT	BASE NE PARITE	P98CDP P12AD P12AD P12AST	VOLATILE XIIIIT XIIICE XIIIDE XIEDCM XIEDCM
		A-35-9			

		PLANT NAME : Windsor (I	AME: WI	PLANT NAME: Windsor (Little River)	le River)					X X	MPLING MPLE FO	SAMPLING TYPE : Final Effluent SAMPLE FORM : Wet Weight	inal Effluer	<b>t</b>			
CONTAM	CONTAMINANT NAME	ONILS OC	STD. FO	UNITS QC STD. FOR STD. REF. P. CODE SURFACE MIN	MIN. CONC.	MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET.	GLOBAL * FREQ. DET.	FLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.
VOLATILES OR	VOLATILES ORGANIC COMPOUNDS																
XICHOG CH XICHO CH XITHIC THI XZCBEN CH	CIS-1,2-DICHLOROETHYLENE CHLOROPCRM TRICHLOROETHYLENE CHLOROBENZENE	7775	0.20 3.00 15.00	NYS-GUI. NYS-STD NYS-GUI. ONT-MOE	2.20 8.20 2.00 3.20	2.20 8.20 2.00 2.10	***		25.0 25.0 25.0 25.0	224 224 224 224	37	0.9 16.5 7.6 0.5	1.22	1.01	1.48 2.86 1.41 1.45	1.11 2.18 1.55 1.05	7.1 21.4 3.6

PLANT NAME: Windsor (Little River) PLANT TYPE: Secondary

SAMPLING TYPE: Recycle SAMPLE FORM: Wet Weight

1																									
GLOBAL & PREV.		1000	0001	1000	100.0	1000	100.0	100.0		0.001	1000	100.0	0.001	88.9	100.0	100.0	8.0	0.001		33.3		<b>3333</b>		88.9	7.88 7.88 8.87 8.88
GLOBAL SPREAD FACTOR		243	4.55	207	766	1.05	3.60	3.13		4.42	6.11	5.64 4.19	4.49	3.08	213	5.19	4.63	6.62		2.60		4.86 3.88 5.12 4.05		5.21	25.5
PLANT SPREAD FACTOR		171	1.32	127	17.1	101	1.10	3.24		1.40	1.62	0.00	1.29	1.12	123	2.08	1.94	197		1.91		80000		1.90	3.09 4.24 2.23
GLOBAL GEO. MEAN		905 21	3439.26	146.20	174.76	6.94	53.83	0.05		28798.20	874.70	1814.00	1.68	308.60	1347.00	4.00	23.60	429.50		562.69		0.71 1.11 0.94		0.79	0.38 0.08 0.43
PLANT GEO. MEAN		2114.10	2615.44	19951	0.46	6.56	388.19	0.03		7620.00	20.00	00:09	0.23	150.00	1410.00	10.00	10.00	20.00		5705.44 272.80		300 300 7.00		125	0.04 0.04 0.02 0.02
GLOBAL % FREQ. DET.		0001	100.0	100.0	988.6	100.0	100.0	85.7		100.0	96.2	100.0	93.6	77.4	100.0	39.5	39.6	67.9		62.8		2222		6.59	38.6 40.9 22.7
GLOBAL # DET		ç	S & S	3 4	39	2 4	43	36		23	4 5	12	4	X =	83 83	2 2	: 7:	36		22				23	112
GLOBAL # SAMPLES		,	3 6 5	2 4	4:	4 4	43	42		53	23.4	12	4	<b>X</b> S3	83 83	53	8	K 53		64		====		4	1111
PLANT % FREQ. DET.		0001	100.0	100.0	100.0	100.0	100.0	66.7		100.0	100.0	100.0	100.0	100.0	100.0	30.0	25.0	25.0		100.0		100.0 100.0 100.0		100.0	100.0 66.7 33.3
PLANT # DET.		·	กะกะ	m m	en e	m m	4 -	. ~		* *	4	- 4	en -	4 4	4 4	7 -	• ••• •	ad gard		e 10				•	. e e e e
PLANT # SAMPLES		,	n en e	m m	(e) (	en en	4 6	n en		* *	• •		m	4 4	44	4 ~	1 😻 1	4 4		<b>e</b> e				•	
PLANT MAX. DET. CONC.		100000	3230.00	203.00	0.70	260.00	13.11	900		10000.00	00:00	92000000	0.30	170.00	1600.00	10.00	20.00	100.00		9900.00		3.00		260	0.09
QC PLANT CODE MIN. CONC. > DL			1910.00	127.00	0.25	143.00	8.50	9000		4700.00	30.00	00:00	0.18	130.00	1200.00	10.00	20.00	100.00		2800.00		3.00 20.00 7.00		82.0	0.06
2002 CODE		•	00	00		00		0		00		00			00			00		- 7				*	
CODI		•	35	Non Mark	2	med	A.			19	3 3	2	33	No.	22	3	33	33	SUNDS	33		2222		Nen	
CONTAMINANT NAME	ONALS		BOD, 5 DAY -TOTAL DEMAND CHEMICAL OXYGEN DEMAND	DISSOLVED ORGANIC CARBON ANACONTIN TOTAL FILT BEAC	NITRATES, TOTAL PILT. REAC.	NITROGEN-TOT-KJEL, UNP. TOT	PHOSPHORUS, UNFILT.TOTAL	NEW PARTICOLATE NITRITE, FILT. REACT.		ALUMINUM, UNFILT. TOTAL	CALCIUM, UNPILI, TOTAL, CHROMIUM, UNPILI, TOTAL	CORPER, UNFILT. TOTAL	MERCURY, UNPILT. TOTAL	MAGNESIUM, UNFILT: TOTAL NICKEL, UNFILT: TOTAL	STRONTIUM, UNFILT TOTAL	SILVER, UNFILT TOTAL	COBALTUNEILT.TOTAL	MOLYBDANUM, UNFILT. TOTAL LEAD, UNFILT. TOTAL	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	M-CRESOL PHENOL	DIOXINS AND FURANS	PENTACHLORODIBENZOPURAN HEXACHLORODIBENZOPURAN HEPTACHLORODIBENZOPURAN OCTACHLORODIBENZOPURAN	PESTICIDES, HERBICIDES, PCBS	24-DICH OROBHBNOXXAGETICACE	SILVEX GAMMA-BHC/GEXCH_ORCYCL+EXANE) 2,4,5-TRICLORPHENOXYACETIC ACID BETA-BHC (HEXCH_ORCYCL+EXANE)
CONTAM- INANT	CONVENTIONALS		BODS	DOC	NNOTFR	NNTKUR	PPUT	NNOZFR	METALS	ALUT	CAUT	COLOT	HGUT	MGUT	SRUT	AGUT	COUT	MOUT	BASENE	PMMCRE PMPHEN	DIOXINS	P95CDF P96CDF P97CDF	PESTICIB	Prosen	PSSILV P1BHCG P324ST P1BHCB

	PLANT	PLANT NAME: Windsor (Little River) PLANT TYPE: Secondary	Sec	ndsor (	Little 1	liver)					SAMPL	SAMPLING TYPE: Recycle SAMPLE FORM: Wet Weight	: Recycl	elght			
CONTAM. CONTAMINANT NAME INANT	NAME	ENS	20 S	UNITS QC PL VT CODEMIN. SONC.	VT SONC. N	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT	FLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL
PESTICIDES, HERBICIDES, PCBS PIHEPE HEPTACH, OREPOXEDE	NE XEDE	Jon .	ug/L 2	0	80.0	0.08	en	-	33.3	2	en	80 VJ	<b>7</b> 00	90'0	3.56	3.11	33.3
VOLATILES ORGANIC COMPOUNDS XIDQ.B 1,1-DIGHLOROETHENB	DUNDS		ueA. 1	120.00	90	140.00	e	, 2	66.7	2	3	8.9	69.52	21.38	295	2.00	22

PLANT NAME: Windsor (Little River) PLANT TYPE: Secondary

SAMPLING TYPE: Raw Studge SAMPLE FORM: Dry Weight GLOBAL % PREV.

GLOBAL SPREAD FACTOR

PLANT SPREAD FACTOR

GEO.

GEO.

GLOBAL.

GLOBAL # DET

GLOBAL # SAMPLES

PLANT # DET.

% FREQ.

PLANT # SAMPLES

CONC

UNITSQA/QC PLANT PLANT (DRY CODE MIN. CONC. MAX. BET.

CONTAM: CONTAMINANT NAME

NANI

100.0 93.9 100.0 100.0 100.0 \$4.4 97.1 90.0 97.1 100.0 93.3 96.9 93.9 100.0 23.5 8840284888 7 8 5 5 8 5 7 2.51 888888888 00000 890.70 1345.90 841.60 9.74 9.74 301.43 606.31 2.23 59.17 3.04 231.70 905.39 25.44 32783.51 5911.32 6.03 892221.45 20347.70 1181818.18 15135.14 38.08 47911.55 5.80 29975.43 296.31 112.53 2.95 436.12 748.16 740 9.80 14.70 24.60 36.30 184.30 63.90 44.20 1228.50 2702.70 1474.20 74.20 27100.00 86'0 19.6 31.4 15.7 23.5 10 8 10 52858484828 45 47 47 51 51 51 51 52 52 555555555555 100.0 0.000 190.0 190.0 190.0 190.0 190.0 190.0 38.08 47911.55 5.80 29975.43 40700.00 36.90 29.50 7.40 9.80 14.70 24.60 56.50 1761.70 63.90 44.20 1228.50 2702.70 1474.20 181818.18 3.44 3.44 296.31 275.68 0.98 112.53 74.20 2.95 436.12 748.16 15135.14 27100.00 15135.14 38.08 47911.55 5.80 29975.43 40700.00 7.40 9.80 14.70 24.60 56.50 56.50 761.70 63.90 44.20 1228.50 2702.70 1474.20 19656.00 181818.18 32.19 39895.33 3.44 3.44 296.31 275.68 0.98 112.53 74.20 295 436.12 748.16 27100.00 00 00000 \*\*\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\*\* 3355 BETA-BHC (HEXCHLORCYCLJEXANE) GAMMA-BHC(HEXCHLORCYCLJEXANE) ALPIA-CHLORDANE 2,4-DICHI.OROPHENOXYACETIC ACID 24.5-TRICLORPHENOXYACETIC ACID HEXACHI OROCYCI OPENTADIENE AMMONIUM, TOTAL, FILT REAC. CHEMICAL OXYGEN DEMAND NITROGEN TOT KUFL, UNP. TOT NITRATES, TOTAL FILT. REAC. PHOSPHORUS, UNFILT, TOTAL RESIDUE, TOT. LOSS ON IONI. SILVER, UNFILT TOTAL.
ALUMINUM, UNFILT TOTAL. STRONTIUM, UNFILT. TOTAL CI PROMILIM, UNFILLI, TOTAL 1,24-TRICHLOROBENZENE ETHYLBENZENE (CRHIO)
M., AND P.XYLENES
O.XYLENE (CRHIO)
CHIOROPORM (CHCL3) SELENIUM, UNFILT. TOTAL. CADMIUM,UNFILLTOTAL MERCURY, UNFILL TOTAL ARSENIC, UNI-II, T. TOTAL. VOLATILE ORGANIC COMPOUNDS COPPER, UNFILT TOTAL NICKEL, UNITH, T.TOTAL. GAMMA-CHI.ORDANE FAD UNIT TOTAL ZINC, UNFILL TOTAL. PESTICIDES, HERRICIDES, PCBS (-LOCK(H+(CONCIN)) METHOX YCHLOR RESIDUE, TOTAL PCB, TOTAL. DIELDRIN SII.VEX CONVENTIONALS METALS BZMPXY BZMYI, XIGILO PIDIEL. PIDMDT PIPCBT P3245T NNITTR PIBHCB PIGHA PIGHA X111CCP X2124 RUNINA RST RSTLOI P3SII.V P324D CUUT PPUT CRUT PRUT

or (Little River)	ary
Windsor	Seconda
	••
NAME	TYPE
PLANT	PLANT

SAMPLING TYPE: Treated Studge SAMPLE FORM: Dry Weight

CONTAM- INANT	CONTAM: CONTAMINANT NAME.	UNITSQ (DRV CO WEIGHT)	2A/QC 3ODE M	UNITSQA/QC PLANT (DRY CODE MIN. CONG. VEIGHT) > DL	MAX. BET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % PREQ. DET.	GLOBAL.	GLOBAL.	GLOBAL. S. FREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD PACTOR	GLOBAL SPREAD FACTOR	GLOBAL & PREV.	
CONVENTIONALS	TONALS																ı
COD NNTKUR PH PHINOL PHUT RST RSTLOI	CHEMICAL OXYGEN DEMAND NITROCHN-TOT KJEL, UNE TOT (4.0xt(H(CONCN)) PHENOLICS (GAAP) PHOSPHORUS, UNFILT TOTAL, RESIDUE; FOTAL, RESIDUE; FOTAL,	*****	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	24 200.00 7.30 23.46 2580160.00 162000.00	24.200.00 7.30 23.46 25.801.60.00 16.2000.00			100.0 100.0 100.0 100.0 100.0	36 4 4 4 5 0 8 8 9 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	8844488	100.0 100.0 100.0 100.0 100.0	24.200.00 7.30 23.46 5580160.00 162000.00	508097.94 38494.12 7.17 43.05 76638.67 80434.04 43379.33	00000000000000000000000000000000000000	4.66 1.77 1.09 3.14 6.91 3.23	100.0 100.0 100.0 87.9 100.0 100.0	
METALS																	
ALUT	ALUMINUM, UNPILITOTAL. ARSENIC, UNFILITOTAL. CADMIUM, UNFILITOTAL.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		\$0663.09 4.69 3.02	\$0663.09 4.69 3.02			100.0	50 50 45	50 49 41	100.0 98.0 91.1	\$0663.09 4.69 3.02	10715.94 5.40 10.47	0.00	2.82 2.06 3.98	97.1 90.3	
CUCT	CHROMEIM, UNFILT TOTAL. COPPER, UNFILT FOTAL. MERCHRY UNFILT TOTAL. NICKEL, UNFILT TOTAL.	2225 2225	0000	382.41 443.46 1.85 99.38	382.41 443.46 1.85 99.38			100.0 100.0 100.0	50 50 45 50	50 45 42 42	100.0 100.0 98.0 93.3	382.41 443.46 1.85 99.38	333.06 732.24 3.24 72.95	00.00	3.59 2.16 2.04 2.95	100.0 100.0 97.1 90.0	
PRUT SEUT SRUT	U-ADJUNEH TOTAL SELENIUM (WELT-TOTAL STROWIUM, UNELT-TOTAL ZINC, UNERL FOTAL	2 2 3 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	0000	78.09 3.83 486.11 809.20	78.09 3.83 486.11 809.20	gran gave gave gave		100.0 100.0 100.0	20 20 20 20 20 20 20 20 20 20 20 20 20 2	8 0 0 8 0 0	98 0 100 0 100 0	78.09 3.83 486.11 809.20	196.62 2.67 240.93 988.90	00.00	2.46 2.98 2.54	97.1 97.1 100.0 100.0	
BASENE	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS									:				1	4	:	
PAIMCKE DIOXINS A	MMCKE: M.C.KENOL. DIOXINS AND FURANS	ng/kg	ž	80419.K0	N6419.80	-	-	0.00.0	9.	2	30.0	X6419.80	5281.80	00.00	W. 20	E SS	
P9RCDD	98CDD OCTACHLORODIBENZODIOXIN PESTICIDES,HERRICIDES,PCBS		_	090	09'0	***	-	0.00.0	49	36	53.1	09'0	7.10	0.00	3,84	2	
PIALDR PIBHICS PIBHICS PICHIA PICHIA PICHIA PICHIA PIENDZ PIENDZ PIENDZ PIENDZ PIENDZ PIENDZ PIENDZ PIENDZ PIENDZ VIICCP X2124	PIALDR ALDRIN BETCA-BECTELORCYCLIEXANE) PIETCH A ALPHA-CHEORCYCLORCYCLIEXANE) PICHIA ALPHA-CHEORDANE PICHIA GAMMA-CHEORDANE PICHIA GAMMA-CHEORDANE PICHIA GAMMA-CHEORDANE PICHIA GAMMA-CHEORDANE PICHIA GAMMA-CHEORDANE PICHIA GAMMA-CHEORDANE PICHIA BETOSCULPAN II ENDRIN PEDDO PALITIC BENDOSULPAN II ENDRIN PEDDO PALITIC BENDOSULPAN II ENACTHEOROPHENOXAGETIC ACID PICHIC BENDOSULPAN III PEDDO PALITIC BENDOSULPAN III PEDDO PALITI			13.10 52.80 14.70 22.00 63.10 114.90 114.90 23.70 28.80 36.80 43.50 44.80	13.10 93.20 \$2.80 14.70 63.10 63.10 114.50 28.20 54.80 43.40 44.80		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	0.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	88888888888888888	111 122 123 124 125 127 128 128 128 128 128 128 128 128 128 128	24 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	13.10 93.20 52.80 14.70 14.70 13.70 14.90 13.70 28.20 26.50 26.50 45.40 44.80	5.30 8.80 6.50 6.50 6.50 4.70 4.70 4.20 17.50 77.50 77.50 77.50 77.50 77.50 77.50	888888888888888888888888888888888888888	2.67 5.13 5.13 5.13 5.13 5.42 5.67 5.67 5.67 5.63 5.63 5.63 5.63 5.63 5.63 5.63 5.63	28.5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
7110101	S ORGANE, COMPONES																

: Treated Sludge	: Dry Weight
SAMPLING TYPE	SAMPLE FORM

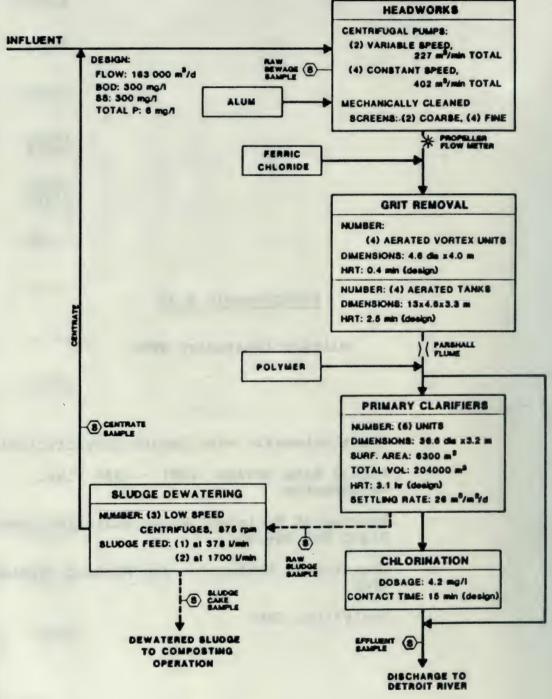
	GLOBAL % PREV.	32. 32. 4.4. 4.5. 8.0. 8.0.
	GLOBAL SPREAD FACTOR	5.59 1.11 4.05 1.51 1.51
	PLANT SPREAD FACTOR	6.0.0 6.0.0 6.0.0 6.0.0 6.0.0 6.0.0
d Studge Weight	GLOBAL GEO. MEAN	606.50 816.00 523.50 441.70 285.40
SAMPLING TYPE : Treated Sindge SAMPLE FORM : Dry Weight	PLANT GEO. MEAN	3888.50 13580.20 3763.40 1234.60 2839.50
E FORM	GLOBAL % FREQ. DET.	25 28 28 28 28 28 28 28 28 28 28 28 28 28
SAMPL	GLOBAL # DET	41 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
	GLOBAL # SAMPLES	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
	PLANT S. FREQ. DET.	100.0 100.0 100.0 100.0
	PLANT # DET.	
	PLANT * SAMPLES	
e River)	PLANT MAX. DET. CONC.	3888.90 13580.20 3765.40 1234.60 2839.50
dsor (Little	MIN. CONC.	3888.90 13580.20 3765.40 1234.60 2839.50
PLANT NAME: Windsor (Little River) PLANT TYPE: Secondary	UNITSQA/QC: PLANT (DRY CODE MIN.CONC. WEIGHT) > DL.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
PLA PLA	CONTAM: CONTAMINANT NAME	VOLATILE ORGANIC COMPOUNDS BABENZ BENEXY CATALENES CATALENES CATALENES CATALENES CATALENES CHICKONOPORM (CHCL3) TETRACHLOROPORM (CHCL3)
	CONTAM.	VOLATILE OF RESERVE PROSENT PR

# Sub-Appendix A-36

Windsor (Westerly) WPCP

### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- o Operational Evaluation for Windsor (Westerly) WPCP
- o Analytical Data



#### NOTES:

- 1. High proportions of combined newers cause periodic hydraulic evertoeds.
- 2. Influent wastewater sensitivent concentrations are highly variable.
- 3, Seasonal chlorination (May 1 to Oct 31)

# WINDSOR (WEST) WPCP

WESTERLY WPCP Primary Phosphorus Removal - Continuous Capacity - 163.656 18(3)m3/day

Annual Data Review

PARAMETER	1981	1982	1983	1984	1985	: MEAN : ANNUAL : AVERAGE
FMANACIEA	1701			170 <b>7</b> 	1705	
Avg. Daily Flow (1888 m3/day)	184.18	195.47	105.01	100.56	124.68	107.97
BDD5 - Influent (ma/L)	200.60	72.88	79.88	93.67	71.92	103.44
BOD5 - Effluent (mg/L) Annual BOD5 Significantly Different from Mean	28.88	26.88	25.88	24.58	22.17	25.31
Annual Average BOD5?	1.0.	1.0.	1.0.	1.0.	1.0.	
TSS - Influent (mg/L)	127.88	91.89	111.89	124.88	88.17	188.41
TSS - Effluent (ag/L) Annual TSS Significantly Different from Mean	24.00	21.68	24.00	29.58	28.98	22.84
Annual Average TSS?	1.D.	1.0.	1.0.	1.0.	I.D.	
	1	1	1	1		;
Total P - Influent (mg/L)	4.68	3.88	4.88	5.15 6.73	4.48	4.41
Total P - Effluent (ag/L) Annual TP Significantly Different from Hean	1 1.72	1	. 6.87	i i	B. 86	9.84
Annual Average TP?	; I.D.	: 1.D.	: I.D.	; 1.D.	1.D.	1

1.D. - Insufficient Data

# SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

# GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER	WINDSOR WES 120001103	TERLY WPCP
TREATMENT TYPE	PRIMARY	
	PHOSPHORUS	REMOVAL CONTINUOUS
DESIGN CAPACITY (1000 m3/d)	163.656	
1986 AVERAGE DAY FLOW (1000 m3/d)	126.434	
POPULATION SERVED	123000	
% OF TOTAL FLOW ATTRIBUTED TO:		
INDUSTRIAL SOURCES (%)	28	
COMMERCIAL SOURCES (%)		
(Population x 0.0757)	7	
Times I must be made to the		
RESIDENTIAL SOURCES (%)		
(Population x 0.175)	17	
INIA COMMEND BOD THAT THE THREE BODIES	4.0	
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from	48	
industrial, commercial and residential sources)		
residential sources)		
PROFILE OF INDUSTRIES IN CATCHMENT		
TOTAL NO OF INDUSTRIES	345	
INDUSTRIES WITH WATER	249	
NO OF SIC CATEGORIES	1941 S M 19 36	
DESCRIPTION OF THE TOP 5 INDUSTRIES	DISCHARGED	TO THE WPCP
(BASED ON WATER USE DATA)		
DESCRIPTION	SIC #	
	CO	MPANIES
	0711 0700	10
TRANSPORTATION EQ'T	3711-3799	18
METAL FINISHING	3411-3469	39
FATS AND OILS	2074-2079	1 2
NON-FERROUS METALS FORMING MFG MACHINERY MFG	3331-3369	99
MACHINEKI MFG	3500-3599	99

# WINDSOR (WESTERLY) WPCP

TREATMENT FACILITY: Primary

PERIOD ENDING: Feb. 20, 1987 SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 163,600 m3/d

			PRE-SA	MPLING PER	10D		
PARAMETER						DAY 6 :	DAY 7
RAN SENAGE FLOW		1	1	1	1	109,000 :	
% of Design Flow	73.352	75.18%	75.792	66.63%	72.131	66.6321	70.29
Influent BOD (mg/L) Primary BOD (mg/L)	59.0	153.0	103.0	89.0	82.0	3	74.0
Secondary BOD (mg/L)  1 PRIMARY REMOVAL	31.0	40.0	34.0	44.0	39.0	18.0	29.0
Z SECONDARY REMOVAL	47.5	73.9	67.0	50.6	52.4	73.1	60.8
Influent SS (mg/L) Primary SS (mg/L)	58.0		123.0	92.0	126.0	80.0	94.0
Secondary SS (mg/L) 2 PRIMARY REMOVAL	20.0		16.0		23.0	18.0	24.0
I SECONDARY REMOVAL	65.5	81.6	B7.0	75.0	81.7	77.5	74.5
Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) 1 PRIMARY REMOVAL 2 SECONDARY REMOVAL		2 2 3 3 4 4	2 2 3 6 3 6 1 1 2 2	2 2 1 1 1 1 1 2 2 3 3			
Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) 1 PRIMARY REMOVAL		3 3 8 0 9	1	1 0 9 0 0	3 3 9 9 3 3 3	1	
I SECONDARY REMOVAL							
Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L)	3.40	1	1	1	3.40 ; 0.84 ;	3.40 t	0.60
1 PRIMARY REMOVAL 2 SECONDARY REMOVAL	72.9	1	1	1	75.3 1	1	76.9

# WINDSOR (WESTERLY) WPCP

TREATMENT FACILITY: Primary

PERIOD ENDING:

Feb. 20, 1987

SAMPLING SEASON:

Winter (Cold Weather)

DESIGN AVE FLOW: 163,600 m3/d

				PRE-SA	MPLING PER	100		
1=:	PARAMETER :	DAY 8 :	DAY 9 :	DAY 10 :	DAY 11 :		DAY 13 :	
	RAW SEWAGE FLOW	115,000	100,000	114,000	106,000	101,000	81,000	
	% of Design Flow	70.29%	61.121;	69.681	64.791	61.741	49.51%	44.012
	Influent BOD (mg/L) Primary BOD (mg/L)	140.0	141.0	109.0	78.0	105.0	84.0	74.0
!	Secondary BOD (mg/L) ;	20.0	40.0	42.0	25.0	30.0	21.0	21.0
	Z SECONDARY REMOVAL	85.7	71.6	61.5	67.9	71.4	75.0	71.6
	Influent SS (mg/L) : Primary SS (mg/L) :	112.0	164.0	122.0	53.0	122.0	103.0	94.0
1	Secondary SS (ag/L) : % PRIMARY REMOVAL :	16.0 :	59.0	36.0	37.0	21.0	32.0	23.0
!	1 SECONDARY REMOVAL	85.7 1	64.0 :	70.5	30.2	82.8	68.9	75.5
2	Influent NH4 (mg/L) : Primary NH4 (mg/L) :	:	1	;	:	:	i	
1	Secondary NH4 (mg/L) : I PRIMARY REMOVAL :	1	1			;	1	
 	% SECONDARY REMOVAL :							
1	Influent TKN (mg/L) : Primary TKN (mg/L) :	:		;		1		
2 2	Secondary TKN (mg/L) : 2 PRIMARY REMOVAL :	1	;	!		1		
 	Z SECONDARY REMOVAL							
1	Influent Total P (mg/L) : Primary Total P (mg/L) :	2.40 1	3.70 :	3.40 !	2.30 :	3.40 !	5.00 !	6.00
1 1	Secondary Total P (mg/L) : I PRIMARY REMOVAL :	0.60 :	1.70 :	1.30	1.30 !	0.71 :	1.20 !	1.30
1	% SECONDARY REMOVAL :	75.0 1	54.1 :	61.8 :	43.5 1	79.1 1	76.0 :	78.3

### WINDSOR (WESTERLY) WPCP

TREATMENT FACILITY: Primary

PERIOD ENDING: Feb. 20, 1987

SAMPLING SEASON: Winter (Cold Weather)

DESIGN AVE FLOW: 163,600 m3/d

1 1				SAMP	LING PERIO	D		-
9 9 9				DAY 17			1 DAY 21	-
;==				***************************************				=
9 1	RAW SEWASE FLOW	85,000	B2,000	84,000	B3,000	88,000		
8 8 8	I of Design Flow	51.962	50.121	51.342	50.732	53.791	8 1 2 1	
3 3	Influent BOD (mg/L)		114.0	108.0	142.0	113.0	 	-
18 18 18 18 18 18 18 18 18 18 18 18 18 1	Primary BOD (mg/L) Secondary BOD (mg/L) 1 PRIMARY REMOVAL	52.0		51.0	63.0	41.0	8 8 8	
1	% SECONDARY REMOVAL		50.9	52.8	55.6	63.7	 !	-
8 2	Influent SS (mg/L) Primary SS (mg/L)	9 8	142.0	136.0	138.0	139.0	1	
	Secondary SS (mg/L) : 2 PRIMARY REMOVAL	25.0	18.0	14.0	13.0	14.0	1	
g 2	I SECONDARY REMOVAL		87.3	89.7	90.6	89.9		
2	Influent NH4 (mg/L) Primary NH4 (mg/L)	3 3	1		1		1 1	
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Secondary NH4 (mg/L)	3 1	3 8 9	1	8 9			
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 PRIMARY REMOVAL 1 SECONDARY REMOVAL	1	1 1		1 1 1		1	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Influent TKN (mg/L)				1 1 1			_
8	Primary TKN (mg/L) Secondary TKN (mg/L)	i	1	8	i		2	
	1 PRIMARY REMOVAL		1		1		*	
1	2 SECONDARY REMOVAL				!			-
8	Influent Total P (mg/L) Primary Total P (mg/L)		4.80		5.20	4.70	8	
	Secondary Total P (ag/L)	1.10			0.54	0.57	9 9	
	1 SECONDARY REMOVAL		83.8	90.0 :	89.6	87.9	1	

PLANT NAME: Windsor (Westerty)
PLANT TYPE: Primary

SAMPLE FORM : Wet Weight

ONVERTIONALS  FOR STATE OF A STAT	CONTAM.	CONTAMINANT NAME	UNITS	UNITS QC PLANT CODE MIN. CON DL	ن	MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	% FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	GEO. MEAN	GEO. GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
NAMES   CALCAL LANGE CRANKE   Web,   CALCAL LANGE CRANKE	CONVENT	ONALS															
AMERICAL CHRISTICAL WILL GOOD ROOM 6 0 1000 322 314 1000 1100 150 324 MERCALL TOTAL WILL GOOD 1100 1100 1100 1100 1100 1100 1100 1	BODS COD DOC NNHTPR NNTKUR PHUT		33333 33		88.90 210.00 14.30 17.50 6.76 4.45	210.00 386.00 21.50 12.20 22.50 6.89 8.65	<b>.</b>	**************	100.0 100.0 100.0 100.0 100.0	267 260 271 273 273 278 248	266 274 273 273 273 288 288	99.6 100.0 100.0 100.0 100.0	115.56 277.33 18.32 11.44 19.83 6.81 5.50	140,23 287,75 22,39 15,37 25,44 6,90 5,88	128 110 129 139	182	0.0001
ALTIMINIALIZATIONAL   March	METALS						- 1/2		170								
MACHINICATIONAL TOTAL   Math	ALUT CRUT CUUT HGUT NIUT SRUT	ALUMINUM, UNFILT. TOTAL CHROMIUM, UNFILT. TOTAL COPPER, UNFILT. TOTAL MEKCH, UNFILT. TOTAL STRONTIUM, UNFILT. TOTAL	333333		5200.00 50.00 110.00 0.09 120.00 400.00	8000.00 160.00 110.00 0.18 310.00 480.00	<b>~~~~</b>	@ @ ~ N @ @	100.0 100.0 100.0 100.0	322 322 49 283 322 319	306 237 48 274 103 318	95.0 73.6 98.0 96.8 32.0	6740.00 100.00 110.00 0.14 210.00 430.00	1000.10 51.10 110.60 0.23 38.80 370.70	1.09 1.53 0.00 1.34 1.08	265 3.44 2.28 2.11 2.70 2.14	97.3 97.1 100.0 100.0
M-CRESOL ULLE COMPOUNDS  M-CRESOL ULL I 29.20 29.20 5 1 1 20.00 273 167 60.7 9.08 25.59 1.97 3.45  AND FURANS  OCTACRILORODIBENZODIOXIN ULL I 15.00 15.00 1 15.00 1 1 1 100.0 24 4 7.4 15.00 0.87 0.00 3.66  24 DIGLIARIA SHCHEZCRILOROCYCLHEXANE) ULL 2 0.03 0.05 5 4 0.00 276 1.43 51.8 0.03 0.02 2.03 2.29 4.49 0.04 2.40 2.76 1.43 51.8 0.03 0.01 2.49 1.36 1.36 0.14 0.01 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.36 0.14 0.04 1.36 1.39 0.14 0.04 1.36 1.39 0.14 0.04 1.36 1.39 0.14 0.04 1.36 1.39 0.14 0.04 1.36 1.39 0.14 0.04 1.36 1.39 0.14 0.04 1.36 1.39 0.14 0.04 1.39 0.14 0.04 1.39 0.14 0.04 1.39 0.14 0.04 1.39 0.14 0.04 1.39 0.14 0.04 0.04 1.39 0.14 0.04 0.04 1.39 0.14 0.04 0.04 1.39 0.14 0.04 0.04 0.04 0.04 0.04 0.04 0.04	MOUT MOUT COUT COUT	ZINC, UNIT, TOTAL. MOLY BENUN, UNPIL, TOTAL. SILVER, UNFIL, TOTAL. CADMIUM, UNFIL, TOTAL. COBALT, UNFIL, TOTAL.	33333		20.00 20.00 30.00 30.00	180.00 20.00 20.00 30.00	<b>6666</b>	© ≈ ~ ~ ~	100.0 50.0 33.3 16.7 16.7	322 321 321 322 312	315 41 82 76 82	97.8 12.8 23.6 25.5 25.5	160.00 20.00 10.00 10.00	211.00 12.40 10.40 6.50 9.30	2.16 2.16 2.68 1.78 2.07	294 1.72 2.55 2.09 2.31	100.0 100.0 100.0 100.0 100.0
FEAPENENCY   Table	BASE NEU PMMCRE	IRAL AND ACID EXTRACTABLE COMPOU M-CRESOL	NDS	_	29.20	29.20	80	-	20.0	27.5	167	66.7	9006	25.59	1.97	348	2
QA-BICHEROLIDES, FCBS           24-DERBICIDES, FCBS           24-DERBICIDES, FCBS         4         60.0         276         214         77.5         0.19         0.13         2.58         3.72         1           24-DERBICATE CACIDES, CALLEX CHICARCY CLIEX CHICAGO CYCLIEX C	DIOXINS A	ND FURANS OCTACHLORODIBENZODIOXIN	ng.	-	15.00	15.00	12/1	-	100.0	*		4.	15.00	0.87	000	3.66	10.8
ALPHA-BHC(HEXCHLORCARLARCHIORCYCLHEXANE) u.M. 1 0.002 0.008 5 1 40.0 276 16 58 0.002 0.01 2.47 1.50 ALDRIN GAMMA-CHLORDANE u.M. 1 0.002 0.002 5 1 20.0 276 9 3.1 0.01 0.01 1.36 1.21 GAMMA-CHLORDANE u.M. 1 0.002 0.002 5 1 20.0 276 9 3.3 0.01 0.01 1.36 1.23 DIELDRIN U.M. 1 0.010 0.10 5 1 20.0 276 8 2.9 0.01 0.01 1.86 1.28 BMCTHOXCHLORDANE u.M. 1 0.010 0.10 5 1 20.0 276 47 17.0 0.06 0.06 1.36 1.34 ENDOSULJANI U.M. 2 0.28 5 1 20.0 276 42 15.2 0.06 0.06 2.39 2.31 HEXACHLOROBENZENE u.M. 2 0.10 0.10 5 1 20.0 276 11 4.0 0.02 0.02 1.36 1.39	PESTICIDI P3MD P18HCG	S, HERBICIDES, PCBS 2,4-DICH, OROPHENOXY ACETIC ACID GAMMA-BIC(IEXCHLORCY CLJEXANE)		n 2	0.05	0.052	su su	80 <b>4</b> 9	100.0	276 276	214	77.S 51.8	0.19	0.13	2.58	3.72	0.001
	PI BHCA PI ALDR PI CHLG PI DHEL PI DMDT PI END2 PI END2 X2HCB	ALDRIN ALDRIN ALDRIN GAMMA-CHLORDANE DELLORIN METHOXY CHLOR PROSULJAN II PCB, TOTAL HEXACHLOROBENZENE	3333333		0.02 0.02 0.10 0.10 0.10	0.00 0.00 0.10 0.10 0.10		<b>8</b>	200.0 200.0 200.0 200.0 200.0 200.0	226 226 226 226 226	0 8 6 4 7 1 1 4 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2.88 17.0 17.0 18.5.4 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	0.02 0.01 0.00 0.00 0.00 0.00	100000000000000000000000000000000000000	247 136 136 136 136 136 239 280	150 121 123 143 143 143 133 133 133	18.9 16.2 18.9 22.5 46.0 6.0 18.9

CONTAM: CONTAMINANT NAME INANT	PI	PLANT TYPE : Primary UNITS QC PL. CODEMIN.	Prim	CONC. I	MAX. DET. CONC.	PLANT # SAMPLES	PLANT F DET.	PLANT % FIEQ. DET.	GLOBAL # SAMPLES	SAMPL.	SAMPLE FORM : Wet Weight LOBAL GLOBAL FLANT GLOB  " S FRO. GEO. GEO  DET DET. MEAN MEA	HANT GEO.	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.	
VOLATILES ORGANIC COMPOUNDS XITRIC TRICH, OROFITYLENE BZMEXY M., AND P.X.YLENES BZOXYL, O.X.YLENE	OUNDS LENB ES	und.	pri pri pri	160.00 48.00 50.00	00.099 1.80.00 83.00	80 80 80	N 0 0	100.0 40.0 40.0	274	15	5.5 15.7 9.1	282.52 36.98 31.93	22.59 26.00 22.47	1.77 2.62 1.95	1.82 2.02 1.56	37.8.2	

PLANT NAME: Windsor (Westerly)

SAMPLING TYPE: Final Effluent SAMPLE FORM: Wet Weight

GLOBAL GLOBAL SPREAD % PREV. FACTOR	203 136 136 130 130 133 133 133	3.45 1.96 1.85 2.42 2.86 2.83 3.04 1.166 1.196 1.196	1.33 2.10 2.97 1.42	SE SE	228 3.12 4.96	3.05
PLANT SPREAD FACTOR	1133	110 1136 1136 1137 1138 1149 1449	206 1171 221 139	900	135 471 136	243
GLOBAL GEO. MEAN	48.40 108.54 12.80 11.280 11.34 6.88 6.88 2.9.57	550.00 10.80 18.20 0.05 8.70 304.90 65.80 2.50 6.50 2.50 6.50 70.80	1.60 1.42 3.90 1.13	0220	0.04	1.53
PLANT GEO. MEAN	45.28 1104.14 115.63 114.86 14.85 6.85 0.58	1270.00 30.00 10.00 10.00 70.00 70.00 10.00 10.00 20.00	247 1.27 2.14 1.16	90'0	0.03	32.22 23.53 101.06 17.74
GLOBAL % FREQ. DET.	100.0 100.0 100.0 100.0 100.0 100.0	95.8 87.5 97.5 97.5 97.9 97.9 100.0 100.0 12.9 12.9	5.1 20.5 46.2 12.8	25.0	27 001 279	263 34.2 85.3 18.4
GLOBAL # DET.	\$ 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	9 2 2 3 4 7 2 3 4 6 7 1 8 1 1 8 1 1 6	53 88 80 80 80 80	8	27 4 23	10 13 7 7
GLOBAL # SAMPLES	6 6 4 6 6 8 8	4 4 x v v v 4 4 4 4 4 4 4 4 4 4 4 4 4 4	8 8 8 8	<b>60</b>	<b>4</b> 4 4	\$0 \$0 \$0 \$0 60 60 60 60
PLANT % FREQ. DET.	100.0 100.0 100.0 100.0 100.0 100.0	100.0 100.0 100.0 100.0 100.0 100.0 66.7 16.7	20.0 20.0 20.0	100.0	100.0 20.0 20.0	100.0 100.0 100.0 100.0
PLANT # DET.	, พ.พ.พ.พ.พ.พ.พ.พ.พ	@ @ - \$ @ @ <b>\$</b> = =	2	-	8	wn wn wn wn
PLANT # SAMPLES	80 80 80 80 80 80 80 80	00-n0000000	80 80 80 80	-	אין אין אין	wa wa wa
MAX. DET. CONC.	58.00 124.00 17.00 12.20 15.60 6.59 29.80	1480.00 40.00 10.00 140.00 490.00 90.00 20.00 10.00 10.00 40.00	7.20 3.30 8.80 2.10	0.08	0.04	83.00 39.00 380.00 4.20.00
PLANT PLANT MIN. CONC. MAX. DET. > DL CONC.	28.40 88.00 14.20 11.60 11.60 14.40 6.76 0.33	1100.00 20.00 10.00 10.00 360.00 66.00 10.00 10.00 10.00 10.00	3.80 3.30 8.80 2.10	0.08	0.02	11.00 20.00 26.00
	VIII.	ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE ONT-MOE	NYS-GUL NYS-STD	ONT-MOB	ONT-MOE ONT-MOE	NYS-GUL ONT-MOE NYS-GUL NYS-GUL
QC STD. FOR STD. REF. CODE SURFACE WATER		75.00 100.00 5.00 25.00 3730.00 30.00 5.00 25.00	30.00	150.00	0.06 4.00	\$0.00 100.00 0.70 3.00
142 I	000000	000000000	7	-	N-0	
CODI	med. med. med. med. med.		MPOUNDS ug/L ug/L	neA	ANB) und	7775
CONTAMINANT NAME	BOD, S DAY -TOTAL DEMAND BOD, S DAY -TOTAL DEMAND DISSOL VED ORGANIC CARBON AMMONIUM,TOTAL FILT REAC. NITROGEN-TOT-KEIB, UNP. TOT (LOG(IH-(CONCR)) PHOSPHORUS, UNFILT-TOTAL RESIDUR, PARTICULATE	ALUMINUM, UNFILT. TOTAL CORPER, UNFILT. TOTAL CORPER, UNFILT. TOTAL MERCLEY, UNFILT. TOTAL STRONTIUM, UNFILT. TOTAL ZINC, UNFILT. TOTAL ZINC, UNFILT. TOTAL ZINC, UNFILT. TOTAL COBMUM, UNFILT. TOTAL	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS PMOCRE G-CRESOL PMBBP BUTTABRIZYLPHTALATE ugl PMBRCRE M-CRESOL PNAMCRE M-CRESOL PNAMCRE M-CRESOL Ugl	DIOXINS AND FURANS P98CDD OCTACHLORODIBENZODIOXIN	PESTICIDES, HERBICIDES, PCBS PIBHCG GAMMA-BHCGEXCE.ORCYCLJEXANE) PIDMDT METHOXYCLO.OR P324D 24-DIGL.OROPHENOXYAGETIC ACED	VOLATILES ORGANIC COMPOUNDS BEZAPXY M., AND P.XYLENES BEZYXL O.XYLENE XITER XITER XITER TRICHLOROETHYLENE
CONTAM. INANT	CONVENTIONALS BODS BOD; COD CHEM DOC DISSO NNITRY AMMON NNTRUR NITRO PRUT PHOSI RSP RESID	ALUT CRUT COULT NIUT SRUT ZANUT MOUT COULT PBUT	PMOCRE PMBBP PMMCRE PMMCRE PMMCRE	P98CDD	PISTICIDE PIDMDT PISAD	BZMPXY BZOXYL XITETR XITETR

	CONTAMINANT NAME	VOLATILES ORGANIC COMPOUNDS	BZEBNZ FIHYLBHNZENE XIBDCM BROMODICHGOROMETHANE XICHLO CHLOROFORM
PLA PLA			
AN TN	CODE		LEAN TO THE
PLANT NAME: Windsor PLANT TYPE : Primary	STD. FO		70.00 \$0.00 0.20
PLANT NAME: Windsor (Westerly)	UNITS QC STD. FOR STD. REE. PLANT CODE SURFACE MIN CONC. I WATER DL.		ONT-MOB NYS-GUL NYS-STD
(Å)			5.30 5.30
	PLANT AAX. DET. CONC. S.		17.00 3.30 5.30
	PLANT # SAMPLES		en en en
	PLANT * DET.		4
	PLANT & PREQ. DET.		80.0 20.0 20.0
8 8	GLOBAL # SAMPLES		38.88
MPLING MPLE FC	GLOBAL # # DET.		s - 5
SAMPLE FORM : Wet Weight	GLOBAL % FREQ. DET.		13.2 2.6 39.5
inal Efflue	FLANT GEO. MEAN	1	1.76
1 1	GEOBAL GEO. MEAN		1.52
	PLANT SPREAD FACTOR	1	1.42
	GLOBAL SPREAD FACTOR		202
	GLOBAL % PREV.		14.3 71.4

PLANT NAME: Windsor (Westerly)
PLANT TYPE: Primary

SAMPLING TYPE: Recycle SAMPLE FORM: Wet Weight GLOBAL & PREV.

GLOBAL SPREAD FACTOR

PLANT SPREAD FACTOR

GLOBAL GEO. MEAN

GEO. MEAN

GLOBAL GLOBAL GLOBAL
# # % FREQ.
SAMPLES DET. DET.

PLANT % FREQ. DET.

PLANT PET.

PLANT # SAMPLES

UNITS QC PLANT PLANT CODE MIN. COVC. MAX. DET. > MDL CONC.

CONTAM: CONTAMINANT NAME INANT

100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0
	****
780.00 3600.00 193.00 190.00 103.00 190.00 110.00 1133.00 155.00 6.44 6.59 6.44 6.59 7.25 155.00 190.00 24000.00 190.00 190.00 190.00 190.00 190.00 190.00 190.00 190.00 190.00 220.00 190.00 220.00 190.00 220.00 220.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00	0.04 0.50 0.66 1.90 0.06 0.05 0.03 0.03 0.05 0.05 0.05 0.05 0.05
CONVENTIONALS	04 ft 04

	PLANT NAME: Windsor (Westerly) PLANT TYPE: Primary	AME:	Wind	sor (Weste	rly)					SAMPL	SAMPLING TYPE : Recycle SAMPLE FORM : Wet We	E : Recycle : Wet Weight	eght			
CONTAM. INANT	CONTAM: CONTAMINANT NAME	UNITS	CODEN	UNITS QC PLARY CODEMINATIONG. 1 VIDEO	MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT * FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLORAL S. FREQ. DET.	FLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.
PESTICIDE	PESTICIDES, HERBICIDES, PCBS															
XIIICCP	HEXACHLOROCYCLOPENTADIENE HEXACHLOROBENZENE	22	e 6	2.20	2.20	44		25.0	11	12	13.6 27.3	0.09	0.07	4.90	3.21	44 7.24
VOLATILE B2MEXY B2OXYL XITRIC XIDGLB	VOLATILES ORGANIC COMPOUNDS BEMEYY M., AND P. XYLENES BOXYL. XITRIC TRICH OROGITHYLENE XIDGLB 1,1-DICHLOROFITHENE	2222	per cost cost pri	55.00 41.00 53.00 180.00	61.00 45.00 57.00 180.00	4444	. 222-	\$0.0 \$0.0 \$0.0 \$0.0	3 3 3 3	2226	4 4 4 6 6 6 6 8	34.04 29.31 33.16 34.64	19.51 19.34 19.56 21.38	1.85 1.79 3.00	1.67 1.62 1.66 2.00	11.1 11.1 12.2

PLANT NAME: Windsor (Westerly)

GLOBAL % PREV. 93.9 9.1.9 100.0 100.0 100.0 17.7 2222 SPREAD GLOBAL, 12.16 4.59 2.21 2.29 1.10 1.10 1.81 3.57 4.45 3.60 3.48 PLANT SPREAD FACTOR 00.00 8888888 000000 GLOBAL, GEO. MEAN 3563.50 301.43 5.80 3.04 231.70 905.39 25.44 25.44 36897.85 6.03 20347.70 32783.51 30.17 9835.74 6.13 9.74 9.29 2.23 3.90 7.20 8.50 8.50 8.50 SAMPLE FORM: Dry Weight SAMPLING TYPE: Raw Studge GEO. MEAN 3529.70 39.22 29098.09 5.81 27959.47 51591.00 34.03 41.50 22.90 19.10 384.22 652.05 213.43 213.43 17.59 293.51 715.18 250 3.80 3.30 3.30 6.30 5.69 GLOBAL. 88.9 100.0 98.0 93.0 73.2 98.0 62.2 98.0 96.0 97.9 89.6 0.00 0.00 0.00 0.00 0.0000 GLOBAL. DET 2 9 225525 - 24 GLOBAL. SAMPLES 22223 PLANT & FREQ. 0.000 0.001 100.0 100.0 DET. SAMPLES PLANT UNITSQA/QC PLANT PLANT (DRY CODE MIN, CONC. MAX, DET, WEIGHT) > DL CONC. 34.03 37925.43 41.50 22.90 19.10 384.22 652.05 3529.70 39.22 29098.09 5.81 51591.00 5.69 448.36 213.43 17.59 293.51 715.18 250 3.80 25.30 3.30 6.30 77.65672 4870.77 39.22 29098.09 5.81 27959.47 134104.20 34.03 77925.43 41.50 19.10 19.10 384.25 652.05 1.39 448.36 213.43 17.59 293.51 2.50 3.80 25.30 3.30 6.30 79043.00 51591 00 3529.70 PLANT TYPE : Primary \*\*\*\*\* \*\*\*\*\*\*\*\*\* ugke ugke 55555 BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS PENTACHLORODIBENZOFURAN HEYACHLORODIBENZOFURAN HEPTACHLORODIBENZOFURAN OCTACHLORODIBENZOFURAN OCTACHLORODIBENZOFURAN AMMONIUM, TOTAL PILT.REAC. NITRATES, TOTAL FILT.REAC. MOLYBDENUM, UNFILT, TOTAL NITROGEN-TOT-KJEL, UNP. TOT PHOSPHORUS, UNFILT. TOTAL RESIDUE, TOT LOSS ON IGNI. SILVER, UNPILT, TOTAL
ALUMINUM, UNPILT, TOTAL CHROMIUM, UNFILT, TOTAL, STRONITUM, UNFILT. TOTAL CADMIUM, UNFILT. TOTAL MERCURY, UNITE, T. TOTAL, SFI FNIUM, UNPILITOTAL CONTAM: CONTAMINANT NAME ARSENIC, UNFILT, TOTAL COBALTUNFILT.TOTAL COPPERLUNFILLTOTAL NICKEL, UNFILLTOTAL (PAD,UNFILT.TOTAL ZINC, UNFILT TOTAL (LOG(IH(CONCN)) RESIDUE, TOTAL M-CRESOL. PHENANTIBRENE DIOXINS AND FURANS CONVENTIONALS METALS PMMCRE NNITTH **XIXIX** NEWNO P95CDP P97CDP P98CDP RSTI.OI NAN CRUT MOUT CDUT

67.7 47.1 47.1 82.3 55.9

3.18

00.00

88.70 48.90 93.20 47.30

38.00 122.70 35.40 341.60 43.00

54.9 41.2 74.5 45.1

23222

22222

0.000

38.00 122.70 35.40 341.60 43.00

38.00 122.70 35.40 341.60 43.00

55555

24.5-TRICLORPHENOXYAGETIC ACID 24-DICHLOROPHENOXYAGETIC ACID 5B.VEX

VOLATILE ORGANIC COMPOUNDS

GAMMA-BITCHEXCHLORCYCLIBIXANE)

PCB, TOTAL

PIBHCO PIPCBT P32AST P32AD

PESTICIDES, HERBICIDES, PCBS

UNITSQAQC PLANT (DRY CODEMIN.CONG. WEIGHT) > DI.	FLANT C. MAX. DET. CONC.	PLANT # SAMPLES	PLANT PET.	PLANT S PURQ. DET.	GLOBAL # SAMPLES	SAMPL	SAMPLE FORM : Dry Weight LOBAL GLOBAL FLANT GLOB  BET DET. MEAN MEA	: Dry FLANT GEO. MEAN	GLOBAL, GEO. MEAN	PLANT SPREAD PACTOR	GLOBAL SPREAD FACTOR	GLOBAL,
26.10.10	2430 30	-	-	1000	-81	10	9.61	2530.30	890.70	0.00	2.60	26.5
10347 60	10347 60			1000	- 15	16	31.4	10247 60	1345.90	000	3.86	41.2
4040 60	4040 40			0001	-	96	15.7	5060.50	841.60	00.00	2.51	23.5
30000.30	3000 30 16446 70			1000		12	23.5	16446.70	1225.10	00.00	4.24	35.3
116.380	3162 80			100.0	51		8.9	3162.80	661.30	0.00	1.90	8.8

PLANT GLOBAL GLOBAL SPREAD SPREAD % PREV. GEOBAL GEO. SAMPLING TYPE: Treated Sludge SAMPLE FORM: Dry Weight PLANT GEO. GLOBAL. PLANT GLOBAL GLOBAL
\* FREQ. \* # # PLANT PLANT # UNITSQA/QC PLANT PLANT
(DRY CODE MIN, CONC. MAX, DET. PLANT NAME: Windsor (Westerly)
PLANT TYPE: Primary CONTAM: CONTAMINANT NAME INANT

		WEIGHT	, <u>B</u>	CONC.	SAMPLES	DET.	DET.	SAMPLES	Täq	DET.	MEAN	MEAN	FACTOR	FACTOR	
CONVEN	CONVENTIONALS														
COD NNTKUR PH PHINOL PHIT PHIT PHIT PHIT RST	CHEMICAL, OXYGEN DEMAND NITROGEN-TOT-KIEL, UNF. TOT (-LOXXII+(CONCN)) PHEOLICS (AAAD) PHEORICUS, UNFILT-TOTAL RESIDUE, TOTAL. RESIDUE, TOTAL.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1054687.50 20899.99 6.90 46.88 5948160.00 256000.00 165632.00	1054687.50 20899.99 6.90 46.88 5948160.00 256000.00			, 0.001 1.00.0 1.00.0 1.00.0 1.00.0 1.00.0	8 4 4 4 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 6 4 4 £ 8 8 8	100.0 100.0 100.0 83.7 100.0 100.0	1054687.50 20899.99 6.90 46.88 59481.60.00 256000.00 165632.00	508097.94 38494.12 7.17 43.05 76638.67 80434.04 43379.33	8 8 8 8 8 8 8 8	4.65 1.77 1.09 3.14 5.91 3.23 3.19	100.0 100.0 100.0 100.0 100.0 100.0
METALS															
ALUT ASUT COUT	ALLWINDMUNRILTTOTAL ARSENIC, UNFILT TOTAL CADMUM, UNFILT, TOTAL COBALT, UNFILT, TOTAL	mg/kg 0 mg/kg 0 mg/kg 0	33693.05 0.43 17.11 19.26	33693.05 0.43 17.11 19.26			100.0 100.0 100.0	50 84 84 86	32 4 4 5	98.0 91.1 82.1	33693.05 0.43 17.11 19.26	10715.94 5.40 10.47 9.14	00.00	2.82 2.06 3.98 2.75	100.0 97.1 90.3 85.7
CRUT	CHROMIUM, UNFIL TTOTAL, COPPER, UNFIL TTOTAL, MERCURY, UNFIL TTOTAL,	mg/kg 0	m w	363.13 615.16 1.25			100.0	50 50 50	50 45 49	100.0 100.0 98.0	363.13 615.16 1.25	333.06 732.24 3.24	00.00	3.59 2.16 2.04	100.0
PRUT	NICKEL, UNFILTTOTAL, LEAD, UNFILTTOTAL		4	405.35			100.0	50 50	49 49	93.3	405.35	196.62	00.00	2.95	90.0
SRIT	STRONTHUM, UNFILL TOTAL ZINC, UNFILL TOTAL	me/kg 0	232.89	232.89			100.0	20 00	20 00	100.0	232.89	240.93	00.00	2.57	100.0
BASENE	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SONDS													
РМВВР	BUTYLBENZYLPHTHALATE	ug/kg 1	20703.10	20703.10	-		100.0	80	sc sc	16.0	20703.10	1916.90	000	5.23	1.7.1
DIOXINS	DIOXINS AND FURANS														
P95CDP P97CDD P98CDD	PHYTACH ORODIBENZOHJRAN HEPTACH ORODIBENZOBIOXIN OCTACH ORODIBENZOBIOXIN	448	2.30	1.60 2.30 13.70			100.0	<b>4</b> 4 9 9	10 10 26	20.4 53.1	1.60 2.30 13.70	2.50 5.00 7.10	0000	5.12 3.21 3.84	23.5
PESTICI	PESTICIDES, HERRICIDES, PCBS														
PIALDR PIRHCB PIRHCD PIBHCG	ALDRIN BETA-BIC (HEXCHLORCYCL/HEXANE) DBLTA-BIC (HEXCHLORCYCL/HEXANE) GAMMA BIC(TEXCHLORCYCL/HEXANE)		,,	32.80 267.10 10.10 74.40			100.0	2 2 2 2	15426	38.0 38.0 8.0 8.0 4.0	32.80 267.10 10.10 74.40	8.80 9.90 8.70 8.70	000000000000000000000000000000000000000	2.67 4.39 1.93 3.13	26.5 47.1 35.3 55.0
PICH G PIDIEL	GAMMACHIORDANE GAMMACHIORDANE DIEJININ METHOXYGHOR	ueks ueks ueks		38.00			100.0	888	21 15	42.0 30.0 30.0	38.00 40.60 73.80		00.00	2.58 3.51 4.42	52.9 38.2 36.2
PHENDS PHENDS PHENDS	ENDOSULANI ENDOSULANI ENDOSULANSULANI OXYCH ORDANE		3 21.60 3 18.10 2 23.80	21.60 18.10 35.20 23.80			100.0 100.0 100.0	8 8 8 8	r n e e	14.0	21.60 18.10 35.20 23.80		00.00	2.67 2.36 2.23 2.24	20.6 14.7 17.7 17.7
PIRCRI	KB, TOTAL.		4	4175.20	-	-	100.0	20	32	0.79	4175.20	ga-	00.00	4.58	7.79

	GLOBAL % PREV.	28.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00	32.4 32.4 35.9 2.9
	61.0 F P	8528	8888
	GLOBAL SPREAD FACTOR	2.47 2.72 5.81 2.76	5.59 7.11 4.05 3.51 3.24
	PLANT SPREAD FACTOR	0.00	60 0 60 0 60 0 60 0
Freated Studge Dry Weight	GLOBAL GEO. MEAN	4.60 11.10 75.00 34.20	606.50 R16.00 \$23.50 441.70 285.40 261.30
: Treate	PLANT GEO. MEAN	22.10 18.30 263.10 308.10	2539.10 5078.10 3906.20 859.40 3359.40 937.50
SAMPLING TVPE: Treated Studge SAMPLE FORM: Dry Weight	GLORAL. % FREQ. DET.	14.0 68.0 50.0 16.0	28 0 300 28 0 28 0 24 0 4 0 2.0
SAMPL	GLORAL.	34 2 28	4814515
	GLOBAL.	2 2 2 3	666666
	PLANT S. FREQ. DET.	160 0 160 0 160 0 160 0	100.0 100.0 100.0 100.0 100.0
	PLANT		
	PLANT		
(erly)	PLANT MAX, DET. CONC.	22.10 18.30 263.10 308.10	2539,10 5078,10 3906,20 859,40 3359,40
dsor (Wes	UNITSQA/QC PLANT (DRY CODE MIN. CONC. EIGHT) > DL	22.10 18.30 263.10 308.10	2539 10 5078 10 3906 20 859 40 3359 40 937 50
Windsor	QA/QC CODE		
ME ::	UNITSQA (DRY CC WEIGHT)	3333	55555
PLANT NAME: Windsor (Westerly) PLANT TYPE: Primary	CONTAMINANT NAME.	PP.DBD PP.DDE 24 DICH. OROPHENOXYACETIC ACID HEXACHLOROCYCLOPENTADJENR	VOLATHE ORGANIC COMPOUNDS  REBRY RAND P XYLENE ROXYL O XYLENE (CRITO)  RICHLO OLIVERORIN (CRITO)  XITHER KITH ORDER OLIVITENE  XITHER KITH ORDER ORDER KITHER KITH ORDER KITH ORDER KITHER KITH
	CONTAM. INANT	PIPPOD PIPPOD P32AD X111CCP	RANKY RANKY RANKY RANKY RANKY RANKY RANKY RANKY WITHIN XITHIN XITHIN XITHIN

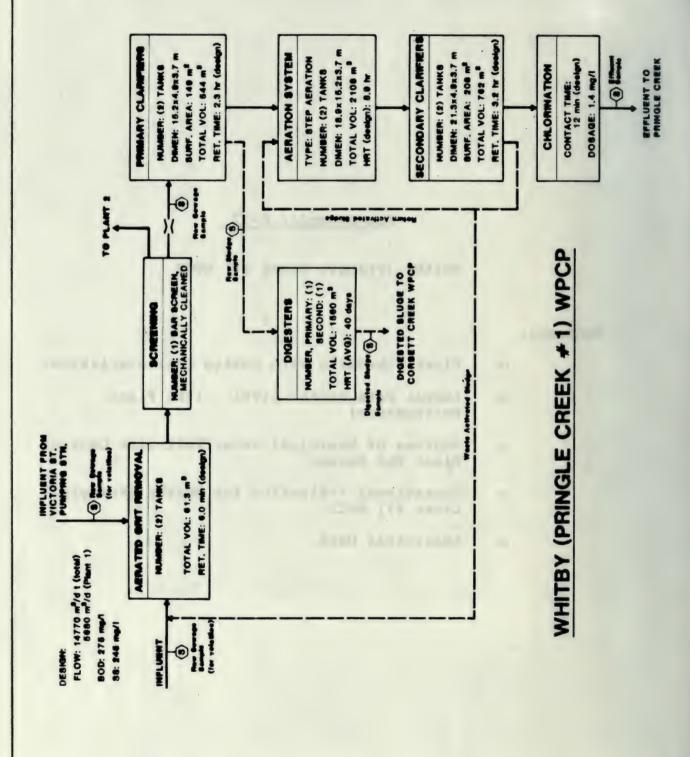
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# Sub-Appendix A-37

Whitby (Pringle Creek #1) WPCP

### Contents:

- o Plant Schematic with Design Characteristics
- o Annual Data Review (1981 1986 Plant Performance)
- o Sources of Municipal Water Pollution Control Plant Raw Sewage
- Operational Evaluation for Whitby (Pringle Creek #1) WPCP
- o Analytical Data



PRINGLE CREEK NPCP NO.1 Conventional Activated Sludge Phasamorus Removal - Continuous Capacity - 5.683 18(3)#3/day

PARAMETER	1981	1982	1983	1984	1985	HEAN ANNUAL AVERAGE
Avg. Daily Flow (1882 m3/day)	4.42	4.38	4.25	6.83	5.49	4.98
BOD5 - Influent (mg/L)	115.00	179.98	72.11	118.11	185.57	118.14
BODS - Effluent (mg/L)	4.88	1 13.88	5.78	20.15	19.26	1 12.68
Amnual BOD5 Significantly	7.00	1 13.00	1 3.70	1 20:13	1 17.40	1 12.00
Different from Mean		1				1
Annual Average BODS?	I.D.	1.D.	1.D.	I.D.	I.D.	
TSS - Influent (mg/L) TSS - Effluent (mg/L) Annual TSS Significantly Different from Mean	165.00 6.00	215.50 12.60	139.22 9.82	163.82 14.42	179.26 14.53	172.96
Accoual Average TSS?	1.0.	1.0.	i 1.D.	1.0.	1.D. 	
Total P - Influent (ag/L)	7.38	7.84	4.68	3.78	2.76	5.27
Total P - Effluent (ag/L)	8.54	1 8.62	1 8.38	8.98	8.78	8.63
Amoual TP Significantly	3	1	1	3	8	1 2
Different from Mean		8	1	3	8	1
Annual Average TP?	I.D.	i 1.D.	1.D.	I.D.	I.D.	1
TP in Compliance?	. Y	. Y	: Y	: V	: Y	. Y

1.D. - Insufficient Data

## SOURCES OF MUNICIPAL WATER POLLUTION CONTROL PLANT RAW SEWAGE

## GENERAL DESCRIPTION OF WATER POLLUTION CONTROL PLANT (WPCP)

NAME OF WPCP WORKS NUMBER TREATMENT TYPE  DESIGN CAPACITY (1000 m3/d) 1986 AVERAGE DAY FLOW (1000 m3/d) POPULATION SERVED	PRINGLE CREEK WPCP 120003101 CONVENTIONAL ACTIVATED SLUDGE PHOSPHORUS REMOVAL CONTINUOUS 9.092 7.133 10925
% OF TOTAL FLOW ATTRIBUTED TO:	
INDUSTRIAL SOURCES (%)	22
COMMERCIAL SOURCES (%) (Population x 0.0757)	12
RESIDENTIAL SOURCES (%) (Population x 0.175)	27
UNACCOUNTED FOR, INCL. INFILTRATION (100-% Contributed from	N 40
industrial, commercial and residential sources)	
PROFILE OF INDUSTRIES IN CATCHMENT TOTAL NO OF INDUSTRIES INDUSTRIES WITH WATER	108 24

DESCRIPTION OF THE TOP 5 INDUSTRIES DISCHARGED TO THE WPCP (BASED ON WATER USE DATA)

DESCRIPTION	SIC	# OF COMPANIES
FRUIT AND VEGETABLES	2032-2038	3 1
ELECTRICAL & ELECTRONIC COMPONENTS	3612-3690	6
MISC. CONVERTED PAPER PRODUCTS	2640-2655	2
ELECTROPLATING	3471-3471	2
WOOD & METAL FURNITURE MFG	2510-2599	5

NO OF SIC CATEGORIES

29

#### OPERATIONAL EVALUATION FOR:

# WHITBY (PRINGLE CREEK-PLANT#1) WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: May 22, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AV6 FLOW: 14,770 m3/d - Total (5,680 m3/d - Plant #1)

11				PRE-SAM	PLING PERI	100			1
11	PARAMETER	DAY 1	DAY 2 :	DAY 3 :	DAY 4 :	DAY 5 :	DAY 6	DAY 7	-
1 (=:				_					
f 2 k i		1	1	1	1	1	1		1
2 2 2 2 2 2	RAW SEWAGE FLOW	2,710 1	2,684 :	2,684 :	2,668 :	2,384 :	1 0		
5 B 5 B	Plant #1	1	1	;	2 1	1	1		1
1 t 1 t	2 of Design Flow	47.7121	47.25%	47.2511	46.97%	41.97%;	8		
8 B 8 B		1	1	1	1	1	1		1
11-									
P E 5 2	Influent BOD (mg/L)	165.0 1	115.0 :	355.0 :	197.0 ;	176.0 :	1		1
2 E 8 2	Primary BOD (mg/L)	;	1	1	1 1	1	*		i
5 ± 9 ±	Secondary BOD (mg/L)	34.0 1	33.0 :	30.0 !	25.0 :	53.0 ;	1		-
1 1	Z PRIMARY REMOVAL	1	2 2	1	1	1	1		١
1 1	% SECONDARY REMOVAL	79.4 1	71.3 :	91.5	87.3 :	69.9 :	1		
8 B	Influent SS (mg/L)	100.0	76.0 1	365.0 1	388.0 :	300.0	1		
1 1	Primary SS (mg/L)	1	1	1	1	1	;		
1 1	Secondary SS (mg/L)	5.5 1	7.3 !	5.0 :	6.0 !	4.3	1		
1 2	I PRIMARY REMOVAL	1	1	3 2	B 9	1	1		
1 1	I SECONDARY REMOVAL	94.5 1	90.4 1	98.6	98.5	98.6 :	;		1
[ ] -									
1 1	Influent NH4 (mg/L)	19.8 1	19.4 1	20.5	27.2 1	22.1 1	i		-
9 8	Primary NH4 (mg/L)		1	1	;		1		
1 1	Secondary NH4 (eg/L)	6.9 1	8.4 1	7.4 1	3.5	1	1		1
3 1	2 PRIMARY REMOVAL		3	i i		;	;		
9 8	Z SECONDARY REMOVAL	65.2 1	56.7 1	63.9 1	87.1 1	1	1		1
11-									-
11	Influent TKN (mg/L)	32.3	30.5 !	48.5	43.0 1	34.3	i		1
11	Primary TKN (mg/L)	0.71	10.7.1	i	i	1	i		
2 1	Secondary TKN (mg/L)	8.7 ;	10.7 :	9.8 :	6.8	3.5 !	i		
11	Z PRIMARY REMOVAL		14.0.1	70.0.1	04.0.1	00.0	i		
11	I SECONDARY REMOVAL	73.1 !	64.9 1	79.8	84.2	89.8 :	i		1
11-							;		-
	Influent Total P (mg/L)	1	i	i	i	i	i		1
	Primary Total P (mg/L)	1	i	i	1	i	i		
11	Secondary Total P (mg/L)	i	i	i	i		i		
11	I PRIMARY REMOVAL	i i	i	i	i	i	i		-
11	% SECONDARY REMOVAL	i	i	i	i	i	1		1

Note: Data was obtained from MOE reports

#### OPERATIONAL EVALUATION FOR:

# WHITBY (PRINGLE CREEK-PLANT#1) WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: May 22, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: 14,770 m3/d - Total (5,680 m3/d - Plant #1)

	-			PRE-SAM	IPLING PERI	OD		
PARAMETER								DAY 14 11
RAW SEWABE FLOW Plant #1 % of Design Flow	# # # #	3,178 : 55.95%;	2,950	2,915 :	2,852 ; 50.212;	2,568 ; 45.21%;	2,590	2,493
Influent BOD (mg/L) Primary BOD (mg/L) Secondary BOD (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL		1	1					
Influent SS (mg/L) Primary SS (mg/L) Secondary SS (mg/L) 1 PRIMARY REMOVAL 2 SECONDARY REMOVAL	1 1 1 1 1 2 3	1	;	:	; ; ;			
Influent NH4 (mg/L) Primary NH4 (mg/L) Secondary NH4 (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL	:	1	1	1				
Influent TKN (mg/L) Primary TKN (mg/L) Secondary TKN (mg/L) 2 PRIMARY REMOVAL 2 SECONDARY REMOVAL		! !	1	1	1			11
Influent Total P (mg/L) Primary Total P (mg/L) Secondary Total P (mg/L) Z PRIMARY REMOVAL	1	0.23	0.23	0.20	0.25	0.30		

Note: Data was obtained from MDE reports

## OPERATIONAL EVALUATION FOR:

# WHITBY (PRINGLE CREEK-PLANT#1) WPCP

TREATMENT FACILITY: Secondary
PERIOD ENDING: May 22, 1987

SAMPLING SEASON: Summer (Warm Weather)

DESIGN AVG FLOW: 14,770 m3/d - Total (5,680 m3/d - Plant #1)

			SAI	IPLING PERI	00			1
			1 DAY 17	: DAY 18	DAY 19			1
		 		[				2 8
RAW SENAGE FLOW Plant #1	3,079	2,824	2,717	2,930	2,753	2,164	2,082	<b>!</b>
% of Design Flow				51.58%				
Influent BOD (mg/L)			:					;
Primary BOD (mg/L)	1 2	3	1	1		1	1	9 5
Secondary BOD (mg/L)	1	8	2	8		1		1
I PRIMARY REMOVAL	1	1	:	1	8		-	1
Z SECONDARY REMOVAL		! !						1
Influent SS (mg/L)	5 8	1 2	1	1		1	i	1
Primary SS (mg/L)	1	1	1	1				
Secondary SS (mg/L)	1	1		1	8			
I PRIMARY REMOVAL I SECONDARY REMOVAL	i	ē .	1	1	i i	8	i	8 8
4 DECUMENT REMOVAL	1 	! !						1
Influent NH4 (mg/L)	1	1	1	1	1	1		1
Primary NH4 (mg/L)	{	2 0	1	1	1	1	1	9
Secondary NH4 (mg/L)	1	1		5 2				1
Z PRIMARY REMOVAL	í	1	1	1		i		8 8
% SECONDARY REMOVAL	1 {	 		! 				3 8
Influent TKN (mg/L)	1	1	1	9 9	9	1		1
Primary TKN (mg/L)		1		,	1		•	1
Secondary TKN (mg/L) Z PRIMARY REMOVAL	i	i 1	1	1	,	i	1	
Z SECONDARY REMOVAL	3	1	1	1	2	!	1	!
			}					1
Influent Total P (ag/L)		!	1	1	3	1	1	•
Primary Total P (mg/L)	1 4 50	1 0 /7	1 4 12	1 0 15		1	:	
Secondary Total P (ag/L)	0.50	0.63	0.69	0.69	0.83			!Plant #1 c
7 PRIMARY REMOVAL 7 SECONDARY REMOVAL	1	1	1	1	1	i	i	1

PLANT NAME: Whitby (Pringle Creek #1)
PLANT TYPE: Secondary

SAMPLING TYPE: Raw Sewage SAMPLE FORM: Wet Weight

INANT	CONTAMINANT NAME U	UNITS QC CODE	CODE MIN. CONC.	MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL # SAMPLES	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GEOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV.	
										-	-		000			
CONVENTIONALS	INALS															
BODS	BOD, SDAY -TOTAL DEMAND	med. 0	115.00	355.00	82	8	100.0	267	266	99.6	187.79	140.23	151	1.93	100.0	
COD	_ 2	THE O	272.00	786.00	4 4	4 %	100.0	27.1	27.1	100.0	20.04	22.39	1.09	181	100.0	
NNHTIPR			19.40	27.20	n wn	S	100.0	275	274	9.66	21.63	15.37	1.15	99'	0.001	
NNTKUR		med. 0	30.50	48.50	an a	so s	100.0	273	273	100.0	70.12	6.90	1.02	1.05	100.0	
RSP	(-LOG(H+(CONCN)) RESIDUE, PARTICULATE	_	7	388.00	n wn	n wn	100.0	267	566	9.66	200.26	126.88	2.16	1.93	100.0	
NNOZPR		meA o	0.03	0.03 5.00	en en		20.0	275	37	13.5	0.46	0.01	3.82	2.05	37.8	
METALS																
ALUT	ALUMINUM, UNFILT. TOTAL	uel o	200.00	15000.00	9	9	100.0	322	306	95.0	4240.00	1000.10	4.58	2.65	97.3	
CULT	COPPIER, UNFILT. TOTAL	NA.	160.00	160.00	4	_ •	100.0	283	77.4	98.0 8.0 8.0	0.32	0.23	1.59	2.11	10001	
HGUT	MERCURY, UNFILL TOTAL	ned.	10.00	270.00	n vo	n vo	100.0	319	318	7.66	140.00	370.70	3.69	214	100.0	
ZNCT	ZINC, UNFILT. TOTAL	_		250.00	9	9	100.0	322	315	97.8	140.00	211.00	1.96	294	100.0	
CDCT			40.00	60.00	· ·	en e	83.3	322	237	73.6	90:06	51.10	5.78	3.44	89.2	
COLT	CORALT.UNFILT.TOTAL	us de		20.00		m	20.0	322	82	25.5	10.00	9.30	1.76	231	83.8	
AGUT	SELVER, UNFILT: TOTAL		20.00	20.00	9	-	16.7	321	82	25.6	10.00	10.40	1.76	553	13.7	
BASE NEUT	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS	SQN														
PMMCRE	M-CRESOL			249.20	<b>87.</b> 1	en e	0.09	275	167	60.7	40.65	25.59	531	3.45	286.5	
PMPHEN	PHENOL	ug/L 2	17.00	26.70	n	•	0.00	617	0		10.01					
PESTICIDES	PESTICIDES, HERBICIDES, PCBS															
				-			0001	311	214	2.12	71.0	0.13	1.70	3.72	100.0	
P32AD P1RHCG P32AST	2,4-DIGHLOROMIENOXYAGETIC ACID GAMMA-BHC(HEXCHLORCYCLJEXANE) 2,4,5-TRICLORPHENOXYAGETIC ACID	222	0.02	0.02	u ao ao	n	20.0	276	និង	8.0	0.00	0.00	1.36	1.60	37.8	

PLANT NAME: Whithy (Pringle Creek)
PLANT TYPE: Secondary

SAMPLING TYPE : Final Effluent

GLOBAL & PREV. 96.4 00.0 00.0 00.0 00.0 11.4 89.3 89.3 82.1 82.1 60.7 96.4 42.9 50.0 GLOBAL SPREAD FACTOR 5275 6.17 1.36 6.62 7.35 PLANT SPREAD FACTOR 22.10 22.10 5.90 5.90 6.90 16.50 \$2.80 8.09 0.22 2.33 7.97 7.10 0.02 GLOBAL. GEO. MEAN SAMPLE FORM: Wet Weight 300.00 0.03 30.00 10.00 10.00 10.00 6.81 0.70 7.37 7.26 5.49 2.71 0.01 33.74 GEO. MEAN GLOBAL. 2442 243 243 243 243 244 244 244 78.0 69.2 11.0 99.1 100.0 88.2 88.2 83.0 100.0 100.0 14.7 DET. GLOBAL DET. 22 23 GLOBAL SAMPLES 213 213 220 220 222 222 222 220 223 223 227 PLANT % FREQ. 100.0 100.0 100.0 50.0 50.0 33.3 16.7 80.0 80.0 80.0 DET. 100.0 100.0 100.0 100.0 100.0 100.0 80.0 PLANT DET. SAMPLES PLANT \*\*\*\*\*\* 0000000000 \*\*\* 60.00 10.00 30.00 MIN. CONC. MAX. DET. \$2.60 \$8.60 1.26 21.50 10.70 7.48 7.30 8.40 20 00 10.00 30 00 2.30 PLANT CONC. 24.70 114.00 5.70 0.54 16.60 3.50 6.93 4.30 3.45 230.00 0.02 20.00 0.00 10.00 10.00 30.00 0.09 PLANT > DL ONT-MOE NYS-STD ONT-MOE STD. FOR STD. REF. ONT:MOE ONT: MOR ONT.MOR ONT-MOR Y-MOH ONT.MOR ONT. MOR ONT-MOR 30.00 SURFACE 9750.00 0.00 25.00 5.00 4.00 WATER UNITS QC CODE 000000000 0000000000 555555 355 2222 222222222 24-DIGILOROPHENOXYAGETIC ACID GAMMA, BHC(IEXCHLORCYCLHEXANE) 24.5-TRICLORPHENOXYAGETIC ACID SILVEX CONTAMINANT NAME DISSOLVED ORGANIC CARBON AMMONIUM, TOTAL, FILT. REAC. CHEMICAL OXYGEN DEMAND NITROGEN-TOT-KUEL, UNP. TOT BOD, S DAY -TOTAL DEMAND NITRATES, TOTAL FILT. REAC. STRONTIUM, UNPIL'T. TOTAL CHROMIUM, UNITILT. TOTAL ALUMINUM, UNFILT. TOTAL MERCURY, UNFILT. TOTAL. CADMIUM,UNFILT.TOTAL. RESIDUE, PARTICULATE SILVER, UNFILT. TOTAL COBALT, UNFILT. TOTAL LFAD, UNFILT. TOTAL NICKEL, UNFILT TOTAL NITRITE PILT. REACT. ZINC, UNITE, T. TOTAL PESTICIDES, HERBICIDES, PCBS (-LOG(H+(CONCN)) PHENOLICS (4AAP) CONVENTIONALS COD DOC NNOZPR NNOTPR NNITRUR PH RSP NNITTPR PHOL P32AD P1BIACG P32AST P3SILV CONTAM METALS INANI AGUT COUT PRUT ALUT HGUT SRUT ZNUT COUT CRUT

PLANT NAME: Whithy (Pringle Creek #1) PLANT TYPE: Secondary

SAMPLING TYPE : Recycle SAMPLE FORM : Wet Weight

CONTINUES   CONT	CONTAM-	CONTAMINANT NAME	UNITS QC	QC PLANT ODE MIN. CON	Σ ن		PLANT # SAMPLES	PLANT # # DET.	PLANT % FREQ. DET.	GLOBAL #	GLOBAL # DET	GLOBAL % FREQ. DET.	PLANT GEO. MEAN	GEO. GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL % PREV
CARRIAN CONTRIL TOTAL   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170	CONVENT	TONALS															
Control Cont							,	,	, 000	95	90	0001	41707.03	24.30.36	1 31	****	000
THE MACHINI-TOTAL ENLATE MALE AND STATE ST	002	CHEMICAL OXYGEN DEMAND	Total Party			2.00	2 10	n en	100.0	42	42	100.0	79.83	77.62	2.39	355	100.0
NUMBER   N	NNHTIPR	AMMONITY TOTAL FILT REAC.	med			3.70			100.0	44	44	100.0	44.18	146.20	1.27	2.07	100.0
Marches Department   Marches	NNO2FR	NITRITE FILT. REACT.				0.05	m :	en e	100.0	45	36	1000	0.03	174.76	1.43	3.13	100.0
HENOLICS (AAAP)   HENOLICS (AAAAP)   HENOLICS (AAAAP)   HENOLICS (AAAAP)   HENOLICS (AAAAP)   HENOLICS (AAAAAP)   HENOLICS (AAAAAP)   HENOLICS (AAAAAP)   HENOLICS (AAAAAP)   HENOLICS (AAAAAP)   HENOLICS (AAAAAAP)   HENOLICS (AAAAAAP)   HENOLICS (AAAAAAAP)   HENOLICS (AAAAAAAP)   HENOLICS (AAAAAAAP)   HENOLICS (AAAAAAAP)   HENOLICS (AAAAAAAAP)   HENOLICS (AAAAAAAAP)   HENOLICS (AAAAAAAAP)   HENOLICS (AAAAAAAAP)   HENOLICS (AAAAAAAAP)   HENOLICS (AAAAAAAAP)   HENOLICS (AAAAAAAAAP)   HENOLICS (AAAAAAAAAAAAAAP)   HENOLICS (AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	NNTKUK	NITROGEN-TOT-KIEL, UNP. TOT	me/L		D	5.00	n e-	2 60	100.0	7 77	7 44	100.0	6.57	6.94	101	1.05	1000
The Nirkhistotal Fitzer   The President Company   The Nirkhistotal Fitzer   The President Company   The Nirkhistotal Fitzer   The President Company	RSP	RESIDUE, PARTICULATE	meA		16	00.0	n en	n en	100.0	42	42	100.0	3064.79	T242.77	4.85	3.60	1000
ALTAMENTAL NEWLY TOTAL.  ALTAMENTAL NEWLY N	NNOTI-R PHNOL	NITRATES, TOTAL FILT, REAC. PHENOLICS (4AAP)	To the state of th			7.40	en en		33.3 33.3	2.2	39	25.0	0.09	041	7.07	3.16	100.0 55.6
ALIMENCHALINELLITOTAL																	
ALTICOLOGY   ALT	METALS																
CACHOMINIATIONAL   Update   CACHOMINIAMENT   TOTAL   Update   Update   TOTAL   Update   U	ALUT	ALUMINUM, UNPILT, TOTAL	ue/L		700	0.00	4	4	100.0	53	53	100.0	549150.00	28798.20	1.26	4.42	1000
COMMINAJURELITYOFAL   Web   Company   Compan	ASUT	ARSENIC, UNFILT TOTAL	No.	0 330000	f-	00.00	4 4	4 4	100.0	5 Z	2 2	100.0	272570.00	208447.60	1.10	181	1000
CORPORTION INTERFELT TOTAL   W.   0 220000 420000 4   1   1000 53   3   5   5   3   3   3   3   3   3		CADMILIM UNPIL TOTAL	ne.		1	00.0	*	*	100.0	53	37	8.69	1060.00	58.40	1.15	6.63	77.8
COPPEL JUNE 11.707AL	CRUT	CHROMIUM, UNFILT. TOTAL	No.			0.00	4	4	100.0	53	51	96.2	3290.00	874.70	131	6.11	100.0
MENCHALLIOTAL  MENCHALLIOTAL  MACHINITALIOTAL  MACHINITALIOTALIOTAL  MACHINITALIOTALIOTALIOTAL  MACHINITALIOTALIOTALIOTAL  MACHINITALIOTALIOTALIOTALIOTALIOTAL  MACHINITALIOTALIOTALIOTALIOTALIOTALIOTALIOTALI	CULT	COPPER,UNFILT.TOTAL	No.			00.00	- 1		100.0	12	12	100.0	3200.00	1814.00	0.00	100	0001
MAGRISINI, INPITITIOTAL   ug/L   30000   4   10000   53   53   54   54   50   56600   41	HEUT	MERCARY INFILT TOTAL	Legal .			1.00	e m	4 60	100.0	47	8 4	93.6	3.62	1.68	5.24	4.49	1000
STECHNIAL/UNITALITYOIAL   ugl. 0   3000   4   1000   51   25   450   4000   51	MGUT	MAGNESITIM, UNFILT. TOTAL	ne.			00.0	4	4	100.0	54	N.	100.0	36630.00	41620.20	1.10	1.78	100.0
STRCHTHUM UNFILL TOTAL  STRUCHMENT TOTAL  STRUCH	SEUT	SELENIUM, UNFILT TOTAL	Non			00.0	<b>4</b>	₩.	100.0	51	23	49.0	40.00	44.20	1.28	3.52	978
SILVIRE UNITED TOTAL   SELVING NET   1707AL   SELVING NET	SRUT	STRONTIUM, UNFILT. TOTAL	7			00.00		4 4	100.0	53	53	100.0	4000.00	3112.40	1.21	7.41	100.0
MOLYBOLNIUMUNTALTIOTAL   u_kl.   0   120,00   140,00   4   3   75,0   54   18   35,3   100,00     COGALIUMPILTIOTAL   u_kl.   0   170,00   140,00   4   1   25,0   53   21   39,6   30,00     NICKELUMPILTIOTAL   u_kl.   0   170,00   170,00   4   1   25,0   53   21   39,6   30,00     NICKELUMPILTIOTAL   u_kl.   0   170,00   170,00   4   1   25,0   53   21   39,6   30,00     NICKELUMPILTIOTAL   u_kl.   2   206,00   3   2   66,7   43   2   67,9   30,00     NICKELUMPILTIOTAL   u_kl.   2   206,00   3   2   66,7   43   2   67,9     NICKELUMPILTIOTAL   u_kl.   2   206,00   3   2   66,7   43   2   64,9     NICKELUMPILTIOTAL   u_kl.   2   206,00   3   2   66,7   43   2   64,9     NICKELUMPILTIOTAL   u_kl.   2   206,00   3   2   66,7   44   1   2   20,4     NICKELUMPILTIOTAL   u_kl.   2   20,6   3   2   66,7   44   1   2   20,4     NICKELUMPILTIOTAL   u_kl.   2   20,6   3   2   66,7   44   1   2   20,4     NICKELUMPILTIOTAL   u_kl.   2   20,6   3   2   66,7   44   1   2   20,4     NICKELUMPILTIOTAL   u_kl.   2   20,6   3   2   66,7   44   1   2   20,4     NICKELUMPILTIOTAL   u_kl.   2   20,6   3   2   2   66,7   44   1   2   2   2     NICKELUMPILTIOTAL   u_kl.   2   20,0   3   2   2   66,7   44   1   2   2   2   2     NICKELUMPILTIOTAL   u_kl.   2   2   2   2   2   2   2   2   2	AGUT	SILVER, UNFILT. TOTAL	ug/			00.0	4	3	75.0	53	42	79.3	90.00	72.30	2.42	4.09	100.0
COMMAN_ALTIONALLY   SULPTONALLY   SULPTONA	MOUT	MOLYBIDENUM, UNFILT. TOTAL	ne.		•	00.00	<b>*</b> •	(P) •	75.0	* 5	æ :	33.3	30.00	33.60	99.	4.15	878
NEATHAL AND ACID EXTRACTABLE COMPOUNDS   NEATHAL AND ACCOUNT   NEATHAL AND A	1500 150N	NICKEL UNFILT TOTAL	n de la company			000	4 4		25.0	53	4 4	77.4	160.00	308.60	1.72	3.08	88.9
RE   M-CRESOIL   March   Mar	PBUT	LEAD, UNFILT. TOTAL	ne/		8	0.00	4	-	25.0	23	36	67.9	320.00	429.50	1.69	6.62	0.001
NETTAL AND ACID EXTRACTABLE COMPOUNDS   NETTAL AND ACID EXPENSIVE   NETTAL AND ACID EXPENSIVE   NETTAL AND ACID EXPENSIVE   NETTAL ALIANDA   NETTAL AND ACID EXPONENTIAL   NETTAL AND ACID EXPONENTIAL AND ACID EXPONENTIAL AND ACID EXPONENTIAL   NETTAL AND ACID EXPONENTIAL																	
RE   M-CRESOL,   ug/L   1   2000.00   2800.00   3   2   66.7   43   27   62.8   943.54   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5   1.5	BASENEC	JTRAL AND ACID EXTRACTABLE COMPC	SUNDO														
CAMMA-CHI.ORDANE   ug/L   1 0.02 0.04   3 2 66.7 44   11 25.0 0.04   1	PMMCRE	M-CRESOL, PHENOL	u. N.		30 2	00.00	e e	0.0	66.7 7.00	43	22 8	62.8	294.36	562.69	4.96	3.65	33.3
G GAMMA-CHLORDANE         ug/L         1         0.02         0.04         3         2         66.7         44         11         25.0         0.04           T PCB, TOTAL         ug/L         2         0.17         2.90         3         2         66.7         44         27         61.4         0.58           2.4.5.TRICJORPHENOXYACETIC ACID         ug/L         3         0.15         82.00         3         2         66.7         44         27         61.4         0.58           Q.A.DICLOROPHENOXYACETIC ACID         ug/L         3         0.15         3         2         66.7         44         27         61.4         0.58           G GAMICH-IOROPHENOXYACETIC ACID         ug/L         1         0.04         0.04         3         1         33.3         44         17         38.6         0.03           G GAMICH-IOROPHENOXYACETIC ACID         ug/L         1         0.04         0.04         3         1         33.3         44         17         38.6         0.03           A LIPIA-CHLOROPHEN WARRING         ug/L         1         0.03         3         1         33.3         44         17         38.6         0.03           SILVEX         ug/	PESTICID	ES,HERBICIDES,PCBS															
CAMMACHLOROMEN   UgL   1 0.02   0.03   0.04   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.05   0.0	0	CALL CAR CAST AND ASSESSED				***	,	•	177	;	:	36.0	200	900	274	320	***
ALPHA-CHICAGNAME	PICHLG PINCBT P3245T P324D	GAMMA-CHI ORDANE PCB, TOTAL ORPHENOXYAGETIC ACID 24-5-TRICI ORPHENOXYAGETIC ACID 24-DICHI, ORDHENOXYAGETIC ACID AAAAA BILOMBOXYAGETIC ACID				2.90	m m m m m	<b>n</b> n n n -	8 8 8 8 8 5 7 7 5 5 5 5 5 5 5 5 5 5 5 5	4 4 4 4 3	1 28 82 1	6.59 4.09 6.39 6.39	0.22	0.43	54.30 8.39 1.0	2.70 7.58 5.21 2.57	# C 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
PP-DDE	PIGHTA	ALPHA-CHLORDANB				0.04	) (m) (		33.3	4:	= "	25.0	0.03	90.0	3.19	2.96	55.6
SILVEX 9 HEXACH_COROCYCLOPENTADIENE ug/L 3 180.00 180.00 3 1 33.3 44 15 34.1 0.77 9 HEXACH_COROCYCLOPENTADIENE ug/L 2 0.04 0.04 3 1 33.3 44 10 27.3 0.03	PIPPOB	DIELORIN PP-DDE	33		03	0.03	n m		33.3	3 3	17	38.6	0.03	0.00	3.16	3.59	55.6
HEXACHLOROBENZENE ug/L 2 0.04 0.04 3 1 33,3 44 12 27,3 0.03	P3SILV X1HCCP	SILVEX HEXACHLOROCYCLOPENTADIENB	33	9 18	16	0.00	m m		33.3	<b>4</b>	15	34.1	0.25	0.38	3.38	3.21	4.4
	X2HCB	HEXACHLOROBENZENE	Non.	2		90:04	60	1	33.3	4	12	27.3	0.03	0.07	3.19	431	1.99

PLANT TYPE : Secondary

SAMPLING TYPE: Raw Studge SAMPLE FORM: Dry Weight

CONTAM.	CONTAMINANT NAME	(DRY CAWEIGHT)	QA/QC CODE	UNITSQA/QC PLANT (DRY CODE MIN, CONC.) (EIGHT) > DL	PLANT MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	PLANT % FREQ. DET.	GLOBAL. # SAMPLES	GLOBAL,	GLOBAL. * PREQ. DET.	PLANT GEO. MEAN	GLOBAL GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL, SPREAD FACTOR	GLOBAL % PREV.	
CONVENTIONALS	TONALS																1
COD NNITTFR NNOTTFR NNTKUR PII PIINOL RST RST	CHEMICAL, OXYGEN DEMAND AMMONIUM, TOTAL, PILT, REAC, NITRACHE, TOTAL, PILT, REAC, NITROGHE, TOTAL, LILL, UNP. TOT (4. OX(H-(YOVCN)) PHENOLICS (AAAP) RESIDUR, TOTAL, RESIDUR, TOTAL,	18/8 18/8 18/8 18/8 18/8	0000000	2619047.62 13578.23 54.42 74829.93 5.76 183.67 10000.00	2619047.62 15578.23 54.42 74829.93 5.76 183.67 14700.00			100.0 100.0 100.0 100.0 100.0 100.0	8 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	44 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	97.9 97.9 97.9 97.9 97.9 97.9 97.9 97.9	2619047,62 15578.23 54.42 74829,93 5.76 183.67 14700.00	892221.45 5911.32 25.44 36897.85 6.03 82.34 32783.51 20803.05	8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	3.19 4.59 2.21 2.28 1.10 1.10 1.81 1.77	100.0 100.0 100.0 100.0 85.3 100.0	
METALS																	
AGUT ALUT ASUT CCNPUR CDUT COUT	SILVER, UNFILT TOTAL ALUMINUM, UNFILT TOTAL ARSENIC, UNFILT TOTAL CYANIDE-PREJUNFILT FRAC. CADMIUM, UNFILT TOTAL COMPATUM, UNFILT TOTAL	# # # # # # # # # # # # # # # # # # #			40.14 102040.82 6.80 0.48 183.67 6.80			100.0 100.0 100.0 100.0	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	30 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	88.9 100.0 98.0 7.5 93.0	40.14 102040.82 6.80 0.48 183.67 6.80	30.17 9835.74 6.13 0.02 9.74	000000000000000000000000000000000000000	2 2 2 2 2 4 4 4 5 5 5 5 5 5 5 5 5 5 5 5	84.4 1000 97.1 10.0 73.3	
CAUT CUUT NICT NICT SEUT SRUT	COPPER, UNFILT TOTAL COPPER, UNFILT TOTAL MERCURY, UNFILT TOTAL MERCURY, UNFILT TOTAL HADD, UNFILT TOTAL SELENDING UNFILT TOTAL STROWTH MUNFILT TOTAL ZINC, UNFILT TOTAL		0000000	489.80 952.38 8.16. 81.63 176.87 8.16 367.35 816.33	489.80 952.38 8.16 81.63 176.87 8.16 367.35			100.0 100.0 100.0 100.0 100.0 100.0	5 6 6 6 6 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1	08 4 8 8 4 8 1 1 2 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1	98.0 100.0 100.0 95.7 98.0 100.0	489.80 952.38 8.16 81.63 176.87 8.16 367.35 816.33	301.43 606.31 2.23 59.17 173.99 3.04 231.70 905.39	000000000000000000000000000000000000000	3.68 1.72 2.90 2.90 2.24 1.93 1.93 2.39	97.1 100.0 100.0 93.3 96.9 93.9 100.0	
BASE NEU PMMCRE	BASE NEUTRAL AND ACID EXTRACTABLE COMPOUNDS WMMCRE M-CRESOL ug/s MMTEN PHENOL ug/s	ug/kg	- 2	1251700.70 51850.30	51850.30			100.0	2.2	152	82.3	51850.30	7312.80	0.00	12.16	85.3	
PESTICIDE PICHLG PIDMDT P3&D	PESTICIDES, HERBICIDES, PCBS PICHI, G GAMMA-CHLORDANB PIDMDT METHOXYCHLOR PSAAD 2,4-DICHLORPHENOXYACETIC ACID	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		13.60 68.00 197.30	13.60 68.00 197.30			100.0	222	9 6 8	37.3	13.60 68.00 197.30	6.00 45.80 93.20	90.00	2.4 5.15 6.30	82.3 82.3	
VOLATILE	VOLATILE ORGANIC COMPOUNDS (ICIL)O CHLOROPORM (CHCL3.)		-	95238.10	95238.10	-	_	100.0	25	12	22	95238.10	1225.10	0000	4.24	35.3	

	PLANT NAME: Whitby (Pringle Creek #1) PLANT TYPE: Secondary	WE: W	Whithy ( Pring Secondary	le Creek#	0				SAMPL	SAMPLING TYP SAMPLE FORM	SAMPLING TYPE: Treated Sludge SAMPLE FORM: Dry Weight	Freated Sludge Dry Weight				
CONTAM. INANT	CONTAM: COUTAMINANT NAME	UNITSQA/C (DRY COD WEIGHT)	UNITSQA/QC FILANT (DRY CODE MIN. CONC. (EIGHT) > DI.	MAX. DET. CONC.	PLANT # SAMPLES	PLANT # DET.	FLANT F FREQ.	GLOBAL. # SAMPLES	GLOBAL.	GLORAL.	PLANT GEO. MEAN	GEO. GEO. MEAN	PLANT SPREAD FACTOR	GLOBAL SPREAD FACTOR	GLOBAL.	1
CONVENTIONALS	TOWALS	1	WESTER OF	at all the	0	-	9		2							
									**	0001	AF 158711	\$08097 94	00.0	4.65	100.0	
goz	CHEMICAL OXYGEN DEMAND		-	1135831.38			1000	9 %	22		15807.96	17658.28	000	267	0.001	
NNITTA	AMMONITM, TOTAL, FILT, REAC.	merks o	4098161	40983.61	-	-	1000	49	49	0.001	40983.61	18494 12	000	8	0.001	
NNTKUR	NITROGEN TOT KIEL, UNF. 101	men o	713	7.13		-	0.001	47	17	0 001	84.1	43.05	000	3.14	87.9	
PAINOI	PHENOLICS (AAAP)			84.31			0 001	50	20	0.001	42700.00	ROATA OM	00.00	123	0001	
RST RSTI.01	RESIDCE, TOTAL, RESIDCE, TOTALOSS ON IGNI.	mg/kg 0	42700 00	22700.00			100.0	05	20	0'001	22700.00	41179.33	00.00	3.19	100.0	
METALS																
			01.90	28.10	-	-	0.001	44	44	100.0	28.10	87.78	000	2.33	0.001	
AGIT	SILVERUNEIT TOTAL	D TO	RIP	81967.21	-	-	0.001	9 9	50	0.001	81967.21	5.40	000	2.06	97.1	
ASIT	ARSENICUNFILT TOTAL			5.15			0.001	45	=	91.1	175.64	10.47	000	3.98	903	
THE	CADMILIM,UNITL.TOTAL.	mg/kg 0	175.64	3.75	-		0.001	61	32	H2.1	3.75	91.6	0.00	3.59	10001	
LION	CORALL UNFILLIOIAL			304.45	1	-	0.001	0, 3	05 4	100.0	726.00	732.24	000	2.16	100.0	
	COPP.R.UNITL.TOTAL		7	726.00			100.0	0.5	49	0.86	3.75	3.24	000	2.04	97.1	
HGUT	MERCURY, UNFILT, TOTAL.	me/kg 0	01 11	91.33		1 1	100.0	45	42	93.3	91.33	12.95	000	2.46	97.1	
THN	NICKEL, UNPLT TOTAL	mg/kg o		161.59	-		0.001	9 9	49	0 96	4.92	197	0.00	2.98	1.16	
SEUT	SPI ENDIMONITATIONAL		4.92	14.92			100.0	20	- 20	100.0	257.61	240 93	0.0	252	0.001	
SRIT	STRONTIUM, UNFILL TOTAL. ZINC, UNFILL TOTAL.	u v		585.48	-		0 001	9	95	0.001	383.48	700.30				
PESTICI	PESTICIDES, HER NICIDES, PCBS															
							000.	Ş	15	30.0	7.00	6.50	0.00	151	38.2	
PIDIEL.	DIFLORIN	ne/ks	2 700	36.20			100.0	05	32	0.40	36.20	114.10	00.0	272	77.5	
PIPERIT	PCB, LOTAL, DP DDF		1 7.00	700	-		0.001	2 2	16	32.0	100.70	84.40	00.00	3.13	41.2	
PYZAST	24.5-TRICLORPHENOXYACTTIC ACID	ug/kg	3 491.80	491.80			1000	9.9	25	36.0	79.60	92.70	0.00	2.9	4	
PSSILV X2124	SILVEX 1.24 TRICHLOROBENZENE	***	3 79.60	12.90			100.0	9	22	0 77	12.90	14.80	00'0	2.02	36.3	

